09-23-11 LETTING ITEM 014

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	1
	ILLINOIS	CONTRACT NO. 62421		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

F.A.P. ROUTE 332 (IL ROUTE 394)
AT JOE ORR ROAD
SECTION 0101.1 BR-3
SUPERSTRUCTURE REPLACEMENT
COOK COUNTY

C-91-130-02

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

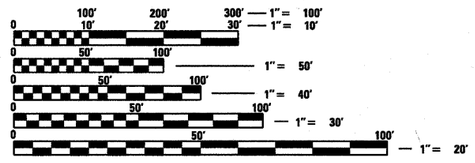
F.A.P. 332
IL ROUTE 394
EXISTING ADT: 53,000
DESIGN ADT: 62,000
SPEED LIMIT: 55 MPH
DESIGN DESIGNATION: INTERSTATE

F.A.U. 1631
JOE ORR ROAD
EXISTING ADT: 7,700
DESIGN ADT: 12,500
SPEED LIMIT: 45 MPH

DESIGN DESIGNATION
JOE ORR ROAD
Minor Arterial (Urban)

PROJECT LOCATED IN THE VILLAGE OF LYNWOOD IN COOK COUNTY

PROJECT DESCRIPTION:
PROJECT INCLUDES REMOVAL AND REPLACEMENT OF SUPERSTRUCTURE JOE ORR ROAD BRIDGE OVER IL ROUTE 394 IN THE VILLAGE OF LYNWOOD, COOK COUNTY, STRUCTURE NO. 016-2121. PROJECT INCLUDES EARTH WORK, DRAINAGE, PAVEMENT REMOVAL AND REPLACEMENT, NEW GUARDRAIL AND MODIFICATIONS TO SUBSTRUCTURE NECESSARY TO INCREASE JOE ORR ROADWAY PROFILE.

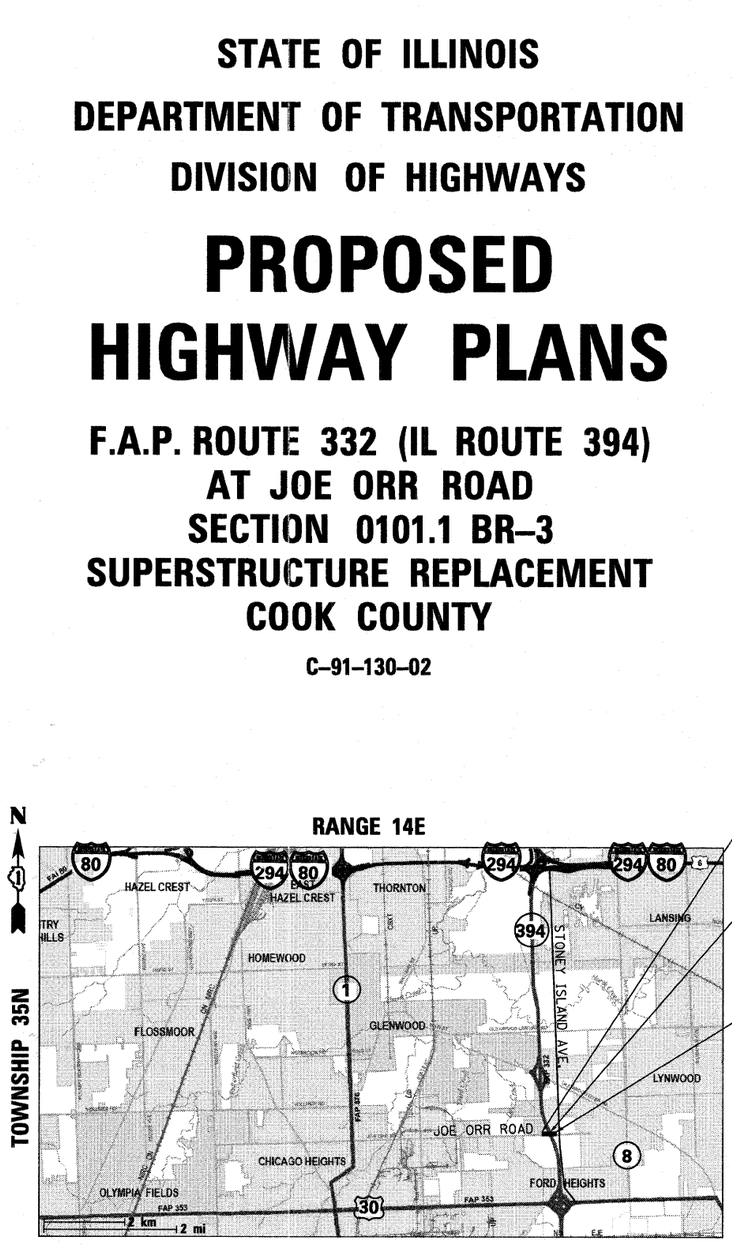


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT MANAGER BRIAN KUTTAB (847) 705-4431

CONTRACT NO. 62421



MAP SCALE : NONE

IMPROVEMENT BEGINS
STA. 1+82.79

STA. 5+97.57
REMOVE EXISTING 225.5 FT
FOUR SPAN SUPERSTRUCTURE
STRUCTURE NO. 016-2121

IMPROVEMENT ENDS
STA. 9+69.13

GROSS LENGTH = 786.34 FT. = 0.149 MILE
NET LENGTH = 786.34 FT. = 0.149 MILE

D-91-130-02

LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED June 8, 20 11
Diane M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
August 19 20 11
Scott E. Stitt P.E. /bs
acting ENGINEER OF DESIGN AND ENVIRONMENT
August 19 20 11
Christine M. Reed /bs
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

THERESA R. PELLETIER
062-047086
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS
Theresa Pelletier 6/06/11
Expires 11/30/11

PIJUSH K. CHATTERJEE
081-005076
LICENSED STRUCTURAL ENGINEER
OF ILLINOIS
Pijush K. Chatterjee 6/06/2011
Expires 11/30/2012

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HIGHWAY STANDARDS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
515001-03	NAME PLATE FOR BRIDGES
542401-01	METAL END SECTION FOR PIPE CULVERTS
602001-02	CATCH BASIN TYPE A
604091-02	FRAME AND GRATE TYPE 24
606001-04	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
609001-05	BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
630001-09	STEEL PLATE BEAM GUARDRAIL
631011-07	TRAFFIC BARRIER TERMINAL, TYPE 2
631031-09	TRAFFIC BARRIER TERMINAL, TYPE 6
635001-01	DELINEATORS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701400-05	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-06	LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-06	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
720001-01	SIGN PANEL MOUNTING DETAILS
720006-02	SIGN PANEL ERECTION DETAILS
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
880001-01	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
886001-01	DETECTOR LOOP INSTALLATIONS

GENERAL NOTES

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE VILLAGE OF LYNWOOD REGARDING THE PASSAGE OF EMERGENCY VEHICLES THROUGH THE CONSTRUCTION ZONE.
2. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION (J.U.L.I.E.) AT 1800 892 0123 FOR FIELD LOCATIONS OF BURIED UTILITIES (48 HOURS NOTIFICATION IS REQUIRED).
3. 10 FT (3 M) TRANSITIONS SHALL BE USED TO MATCH PROPOSED ITEMS OF WORK TO EXISTING ITEMS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEM OF WORK SPECIFIED.
4. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND VILLAGE OF LYNWOOD.
5. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE, OR STORE EQUIPMENT/MATERIALS ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
6. ALL ELEVATIONS REFER TO NAVD88 DATUM.
7. THE CONTRACTOR SHALL UTILIZE EXTREME CAUTION WHEN DIGGING ADJACENT TO EXISTING UTILITIES AND FACILITIES. UTILITY LOCATION INFORMATION SHOWN ON PLANS NEEDS TO BE FIELD VERIFIED PRIOR TO EXCAVATION OR CONSTRUCTION OF THE PROPOSED STRUCTURE.
8. TEMPORARY CONCRETE BARRIER: THE BARRIER UNIT AT EACH END OF THE INSTALLATION SHALL BE SECURED TO THE PAVEMENT USING ALL SIX ANCHORING PINS FOR "F" SHAPE. THE BARRIER ENDS ARE TO BE PROTECTED WITH TEMPORARY IMPACT ATTENUATORS.
9. THE BITUMINOUS MATERIAL PRIME COAT QUANTITIES HAVE BEEN DETERMINED USING A RATE OF 0.1 gal/yd2 (0.5 L/m2) FOR HMA BASES, 0.5 gal/yd2 FOR AGGREGATE BASES AND 0.02 gal/yd2 FOR INTERMEDIATE COURSES.
10. THE CONTRACTOR SHALL MEASURE THE MINIMUM VERTICAL CLEARANCE BETWEEN THE BOTTOM OF BEAM AND PAVEMENT SURFACE AT THE LOCATION SHOWN ON THE "GENERAL PLAN" ON SHEET NO. S1. THIS SHALL BE DONE PRIOR TO THE REMOVAL OF THE DECK. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "CONSTRUCTION LAYOUT." THE CONTRACTOR SHALL PROVIDE THE RESIDENT ENGINEER WITH THE MEASUREMENT.
11. THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.
12. CONTRACTOR TO CONTACT COOK COUNTY HIGHWAY DEPARTMENT, TRAFFIC SIGNAL DIVISION AT 312-603-1734 A MINIMUM OF SEVEN (7) WORKING DAYS PRIOR TO STARTING WORK IN ORDER TO COORDINATE TRANSFER OF TRAFFIC SIGNAL MAINTENANCE.
13. THE CONTRACTOR IS REQUIRED TO COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. ILR 10 ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) FOR STORMWATER DISCHARGES AND CONSTRUCTION SITE ACTIVITIES.
14. EXISTING PROTECTIVE SHIELD TO BE SALVAGED AND RETURNED TO IDOT BRIDGE MAINTENANCE OFFICE LOCATED AT BIESTERFIELD ROAD IN ELK GROVE VILLAGE, IL. PHONE NO. 847-956-1501. 24 HOURS ADVANCE NOTICE IS REQUIRED. THIS WORK SHALL NOT BE PAID SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF WORK.
15. CONTRACTOR MAY REMOVE AND REPLACE EXISTING CABLE GUARDRAIL ALONG 394 IN ORDER TO ACCESS THE MEDIAN WITH NO ADDITIONAL COST TO THE DEPARTMENT.
16. CONTRACTOR SHALL VERIFY ALL INVERT ELEVATIONS PRIOR TO CONSTRUCTION.
17. ONE (1) WEEK PRIOR TO INSTALLATION OF ANY TRAFFIC CONTROL DEVICES, THE CONTRACTOR SHALL NOTIFY THE COOK COUNTY HIGHWAY DEPARTMENT, TRAFFIC SIGNAL DIVISION AT 312-603-1734 TO COORDINATE THEIR WORK.
18. The ISGS has conducted a Preliminary Environmental Site Assessment for this project in which they concluded there is a high risk for the occurrence of hazardous materials. Underground storage tanks will not be acquired and construction excavation will not exceed the recommended depths as described in the PESA review memo for ISGS 2355. If the scope of work changes and/or if additional ROW/temporary easements are required, please contact Sam Mead of the Environmental Studies Unit at 847-705-4101 to discuss any potetial impacts.

COMMITMENTS

NO ADDITIONAL COMMITMENTS HAVE BEEN MADE FOR THE JOE ORR ROAD PROJECT.

FILE NAME = ...\101-xxxxx-sht002-index.dgn	DESIGNED - JCP	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, AND COMMITMENTS

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	2
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		

				URBAN 100% STATE	CONSTRUCTION CODE				
					RECONSTRUCTION	BRIDGE REHAB			
CODE NO.	ITEM	UNIT	TOTAL QUANTITY		NO CAPACITY ADDED	NO CAPACITY ADDED			
					ROADWAY	BRIDGE			
					0004	0014			
					URBAN	URBAN			
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	128		128				
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	57		57				
20101100	TREE TRUNK PROTECTION	EACH	1		1				
20101350	TREE PRUNING (OVER 10 INCH DIAMETER)	EACH	1		1				
• 20200100	EARTH EXCAVATION	CU YD	1,132		1,132				
• 20400800	FURNISHED EXCAVATION	CU YD	1,167		1,167				
20800150	TRENCH BACKFILL	CU YD	87		87				
21101505	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	662		662				
25000300	SEEDING, CLASS 3	ACRE	1.5		1.5				
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	131		131				
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	131		131				
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	131		131				
25100135	MULCH, METHOD 4	ACRE	1.5		1.5				
25100630	EROSION CONTROL BLANKET	SQ YD	7,044		7,044				
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	146		146				
28000400	PERIMETER EROSION BARRIER	FOOT	1,844		1,844				
28000500	INLET AND PIPE PROTECTION	EACH	2		2				
28000510	INLET FILTERS	EACH	11		11				
28100107	STONE RIPRAP, CLASS A4	SQ YD	12		12				
28200200	FILTER FABRIC	SQ YD	12		12				
• 40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	596		596				
~~• 40603085~~	~~HOT MIX ASPHALT BINDER COURSE, IL 19.0, N70~~	~~TON~~	~~547~~		~~547~~				
40701921	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH)	SQ YD	930		930				
~~• 40603340~~	~~HOT MIX ASPHALT SURFACE COURSE, MIX "D", N70~~	~~TON~~	~~79~~		~~79~~				
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	562		562				
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	77		77				
44000100	PAVEMENT REMOVAL	SQ YD	1,543		1,543				
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	1,022		1,022				
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1			1			
50102400	CONCRETE REMOVAL	CU YD	19.1			19.1			
50104650	SLOPE WALL REMOVAL	SQ YD	450			450			
50157300	PROTECTIVE SHIELD	SQ YD	921			921			
50200100	STRUCTURE EXCAVATION	CU YD	88			88			
50300225	CONCRETE STRUCTURES	CU YD	82.5			82.5			
50300255	CONCRETE SUPERSTRUCTURE	CU YD	475.2			475.2			

• DENOTES SPECIAL PROVISION APPLIES

FILE NAME = ...\01-xxxxx-sht#03-S00.dgn	DESIGNED - JCP	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A | SHEET NO. 1 OF 3 SHEETS | STA. | TO STA.

Rev.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	3
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

URBAN
100% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				RECONSTRUCTION NO CAPACITY ADDED	BRIDGE REHAB NO CAPACITY ADDED			
				ROADWAY	BRIDGE			
				0004	0014			
				URBAN	URBAN			
50300260	BRIDGE DECK GROOVING	SQ YD	826		826			
50300300	PROTECTIVE COAT	SQ YD	1,440		1,440			
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1			
50500505	STUD SHEAR CONNECTORS	EACH	3,960		3,960			
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	118,800		118,800			
50800515	BAR SPLICERS	EACH	82		82			
50901730	BRIDGE FENCE RAILING	FOOT	549		549			
51100100	SLOPE WALL 4 INCH	SQ YD	536		536			
51500100	NAME PLATES	EACH	1		1			
52000110	PREFORMED JOINT STRIP SEAL	FOOT	88.5		88.5			
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12		12			
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	12		12			
52100530	ANCHOR BOLTS, 1 1/4"	EACH	60		60			
54213447	END SECTIONS 12"	EACH	4	4				
58700300	CONCRETE SEALER	SQ FT	50		50			
59000200	EPOXY CRACK INJECTION	FOOT	61		61			
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	52		52			
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	2	2				
60100915	PIPE DRAINS 6"	FOOT	215	215				
60100945	PIPE DRAINS 12"	FOOT	312	312				
60107600	PIPE UNDERDRAINS 4"	FOOT	71	71				
60108100	PIPE UNDERDRAINS 4" (SPECIAL)	FOOT	45	45				
60201340	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 24 FRAME AND GRATE	EACH	4	4				
60262700	INLETS TO BE RECONSTRUCTED	EACH	2	2				
60263100	INLETS TO BE RECONSTRUCTED WITH NEW TYPE 3 FRAME AND GRATE	EACH	2	2				
60255500	MANHOLES TO BE ADJUSTED	EACH	2	2				
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	1,005	1,005				
60900515	CONCRETE THRUST BLOCKS	EACH	4	4				
** 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	1,200	1,200				
** 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2	2				
** 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4				
** 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	2	2				
63200310	GUARDRAIL REMOVAL	FOOT	1,608	1,608				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12	12				

**Specialty Items

• DENOTES SPECIAL PROVISION APPLIES

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SUMMARY OF QUANTITIES

SCALE: N/A | SHEET NO. 2 OF 3 SHEETS | STA. | TO STA.

Rev.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	4
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

URBAN
100% STATE

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
					RECONSTRUCTION NO CAPACITY ADDED	BRIDGE REHAB NO CAPACITY ADDED			
					ROADWAY	BRIDGE			
					0004	0014			
					URBAN	URBAN			
	67100100	MOBILIZATION	L SUM	1	1				
	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	66	66				
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	350	350				
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	275	275				
**	72400720	RELOCATE SIGN PANEL - TYPE 2	SQ FT	44	44				
**	72900100	METAL POSTS - TYPE A	FOOT	85	85				
**	73000100	WOOD SIGN SUPPORT	FOOT	59	59				
**	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2,064	2,064				
**	78008310	POLYUREA PAVEMENT MARKING TYPE II - LINE 4"	FOOT	1,140	1,140				
**	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	14	14				
**	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	6	6				
**	78200410	GUARDRAIL MARKERS, TYPE A	EACH	10	10				
**	78200530	BARRIER WALL MARKERS, TYPE C	EACH	30	30				
**	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4				
•	85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1	1				
•	88600600	DETECTOR LOOP REPLACEMENT	FOOT	39	39				
•	89501510	RELOCATE EXISTING FLASHING BEACON	EACH	1	1				
•	Z0001050	AGGREGATE SUBGRADE 12"	SQ YD	1,853	1,853				
•	Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	101		101			
•	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1				
•	Z0018004	DRAINAGE SCUPPERS, DS-12	EACH	4		4			
•	Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	4	4				
•	Z0018800	DRAINAGE SYSTEM	L SUM	1		1			
•	Z0026346	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	1				
•	Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2				
•	Z0030251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2				
•	Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	200	200				
•	Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	90		90			
•	X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	76		76			
•	X5539700	STORM SEWERS TO BE CLEANED	FOOT	181	181				
•	X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1				
•	X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1				
•**	X8140115	HANDHOLE TO BE ADJUSTED	EACH	1	1				

• DENOTES SPECIAL PROVISION APPLIES

** Specialty Items

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DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

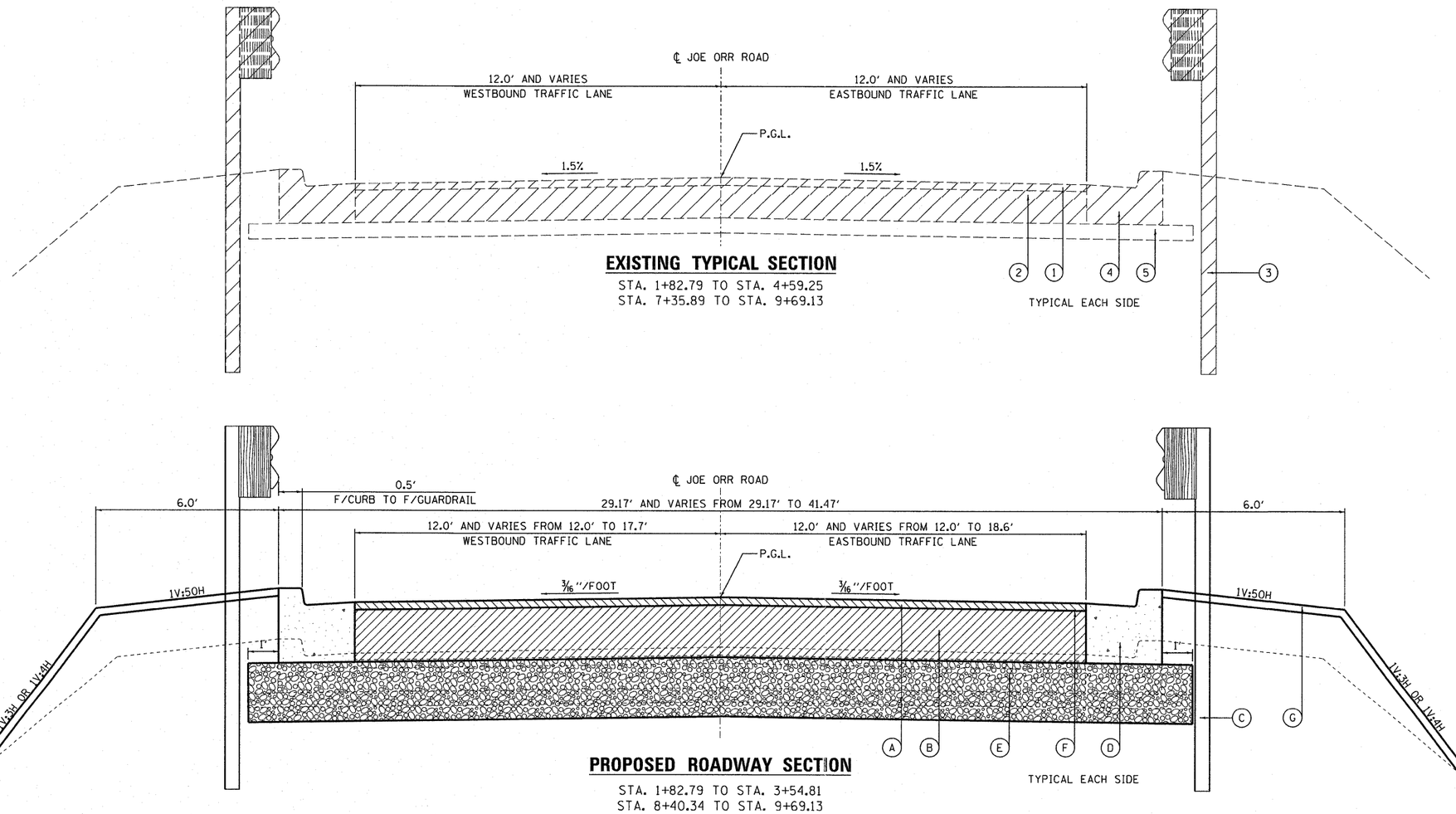
SCALE: N/A | SHEET NO. 3 OF 3 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	5
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE TYPE	AIR VOIDS @ Ndes
FULL DEPTH PAVEMENT	
HOT MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL-9.5 mm)	4% @ 70 GYR.
HOT MIX ASPHALT BINDER COURSE, IL-19.0, N70	4% @ 70 GYR.

1. THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURES QUANTITIES IS 112 LBS/SQYD/IN.
2. THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 70-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.
3. FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.



EXISTING TYPICAL SECTION

STA. 1+82.79 TO STA. 4+59.25
STA. 7+35.89 TO STA. 9+69.13

PROPOSED ROADWAY SECTION

STA. 1+82.79 TO STA. 3+54.81
STA. 8+40.34 TO STA. 9+69.13

EXISTING LEGEND

1. EXISTING 2½" BITUMINOUS SURFACE COURSE
2. EXISTING 10" BASE COURSE
3. EXISTING GUARDRAIL
4. EXISTING CURB & GUTTER
5. EXISTING SUBBASE

REMOVAL

PROPOSED LEGEND

- (A)* PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D" N70, 1½" (IL-9.5 mm)
- (B)* PROPOSED HOT-MIX ASPHALT BINDER COURSE, IL-19, N70 10½"
- (C) PROPOSED STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS
- (D) PROPOSED B-6.24 CURB & GUTTER
- (E) PROPOSED AGGREGATE SUBGRADE, 12"
- (F) BITUMINOUS MATERIAL PRIME COAT
- (G) TOPSOIL EXCAVATION AND PLACEMENT, 4"

* PROPOSED LEGEND ITEMS (A) AND (B) ARE PAID AS HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 12"

FILE NAME = ...\D1-62421-sht006-typsections.dgn	DESIGNED - JCP	REVISED -
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PLOT DATE = 7/20/2011	CHECKED - TRP	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: N.T.S. | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	6
		CONTRACT NO. 62421		
		ILLINOIS	FED. AID PROJECT	

SUMMARY						
LOCATION	EARTH EXCAVATION	EXCAVATION TO BE USED IN EMBANKMENT ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)	TOPSOIL EXCAVATION AND PLACEMENT	BENCHING EARTH EXCAVATION
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA. 0+00.00 TO 1+50.00	0.00	0.00	0.00	0.00	0.00	0.0
STA. 1+50.00 TO 1+82.79	19.36	14.52	-1.34	13.18	3.15	0.0
STA. 1+82.79 TO 2+00.00	19.81	14.86	-1.51	13.35	3.34	0.0
STA. 2+00.00 TO 2+50.00	52.06	39.05	-14.64	24.41	13.57	0.0
STA. 2+50.00 TO 3+00.00	36.14	27.10	-80.52	-53.41	54.57	87.8
STA. 3+00.00 TO 3+50.00	16.63	12.47	-110.18	-97.70	61.40	117.1
STA. 3+50.00 TO 4+00.00	6.17	4.63	-112.31	-107.68	36.18	72.5
STA. 4+00.00 TO 4+50.00	3.34	2.51	-188.67	-186.16	63.78	138.1
STA. 4+50.00 TO 4+54.81	0.35	0.26	-21.94	-21.67	8.38	18.7
STA. 4+54.81 TO 4+84.81	2.64	1.98	-164.32	-162.34	67.59	153.9
STA. 4+84.81 TO 7+00.00	0.00	0.00	0.00	0.00	0.00	0.0
STA. 7+00.00 TO 7+10.33	0.88	0.66	-26.27	-25.61	9.60	26.3
STA. 7+10.33 TO 7+40.33	7.44	5.58	-97.25	-91.67	39.89	105.4
STA. 7+40.33 TO 7+50.00	3.45	2.59	-13.05	-10.46	7.24	16.7
STA. 7+50.00 TO 8+00.00	23.78	17.83	-55.37	-37.54	30.62	0.0
STA. 8+00.00 TO 8+50.00	18.06	13.55	-116.54	-102.99	63.41	77.6
STA. 8+50.00 TO 9+00.00	22.60	16.95	-232.81	-215.86	112.90	181.8
STA. 9+00.00 TO 9+50.00	52.11	39.08	-140.07	-100.99	67.05	104.2
STA. 9+50.00 TO 9+69.13	27.59	20.69	-24.46	-3.77	18.42	31.7
TOTAL	312.42	234.32	-1401.24	-1,166.92	661.08	1,131.8

FURNISHED EXCAVATION SHRINKAGE FACTOR = 0.25

FILE NAME = ...\01-xxxxx-sht07-SQ0.dgn	DESIGNED - JCP	REVISED -
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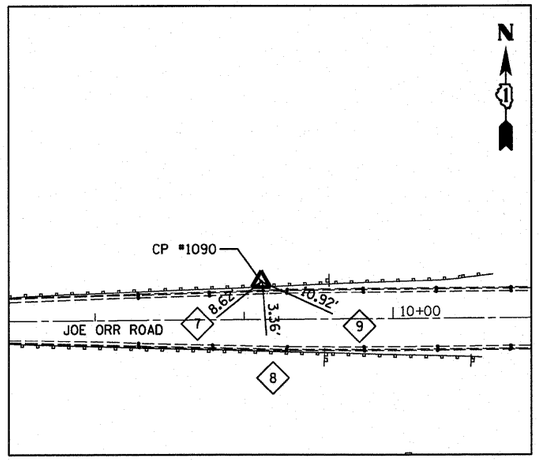
SCHEDULE OF QUANITITES

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

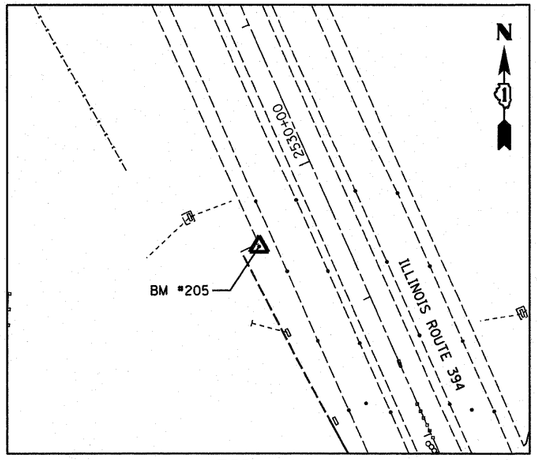
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	7
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



CP#1090

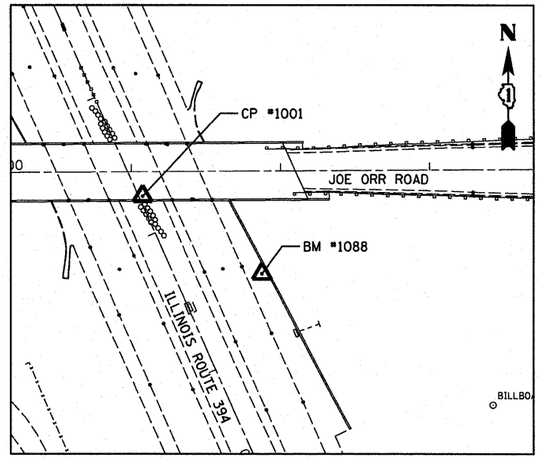
SET NAIL NEAR NORTH GUARDRAIL
STA. 9+11.62 25.23' LT
N: 1190868.38
E: 1768901.05

7. SET "X" ON NORTH FACE OF GUARDRAIL POST
8. SET "X" ON NORTH FACE OF GUARDRAIL POST
9. SET "X" ON NORTH FACE OF GUARDRAIL POST



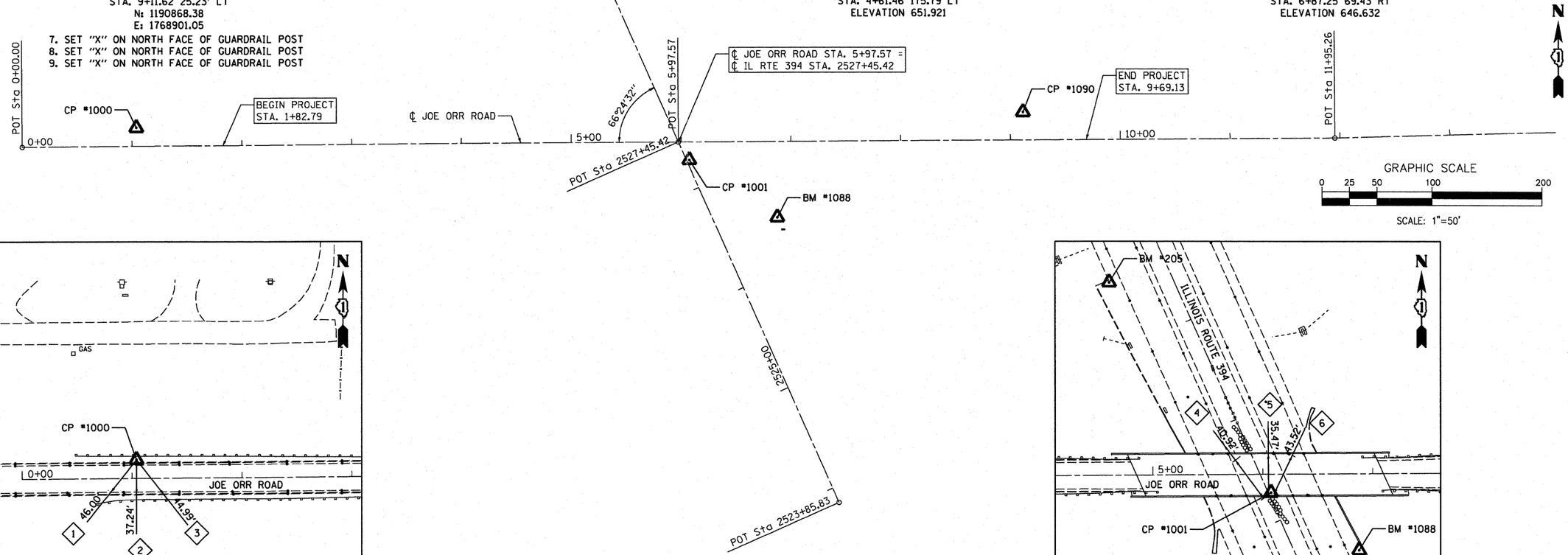
BM #205

BOX CUT ON NORTHWEST QUADRANT OF BRIDGE WALL
STA. 4+61.46 175.79 LT
ELEVATION 651.921



BM #1088

CUT X ON CONCRETE SHOULDER OF ILLINOIS ROUTE 394
STA. 6+87.25 69.43 RT
ELEVATION 646.632



GRAPHIC SCALE
0 25 50 100 200
SCALE: 1"=50'

CP#1000

SET NAIL NEAR NORTH GUARDRAIL
STA. 1+04.10 16.82' LT
N: 1190060.94
E: 1768887.25

1. SET "X" NORTH SIDE OF GUARDRAIL POST
2. SET "X" NORTH SIDE OF GUARDRAIL POST
3. SET "X" NORTH SIDE OF GUARDRAIL POST

CP#1001

CUT "X" ON THE SOUTH SIDEWALK OF JOE ORR ROAD
STA. 6+07.47 16.66' RT
N: 1190564.52
E: 1768857.13

4. SET "X" ON FACE OF NORTH WALL OF BRIDGE
5. SET "X" ON FACE OF NORTH WALL OF BRIDGE
6. SET "X" ON FACE OF NORTH WALL OF BRIDGE

FILE NAME = ...\D1-xxxxx-sht008-ATB.dgn	DESIGNED - JCP	REVISED -
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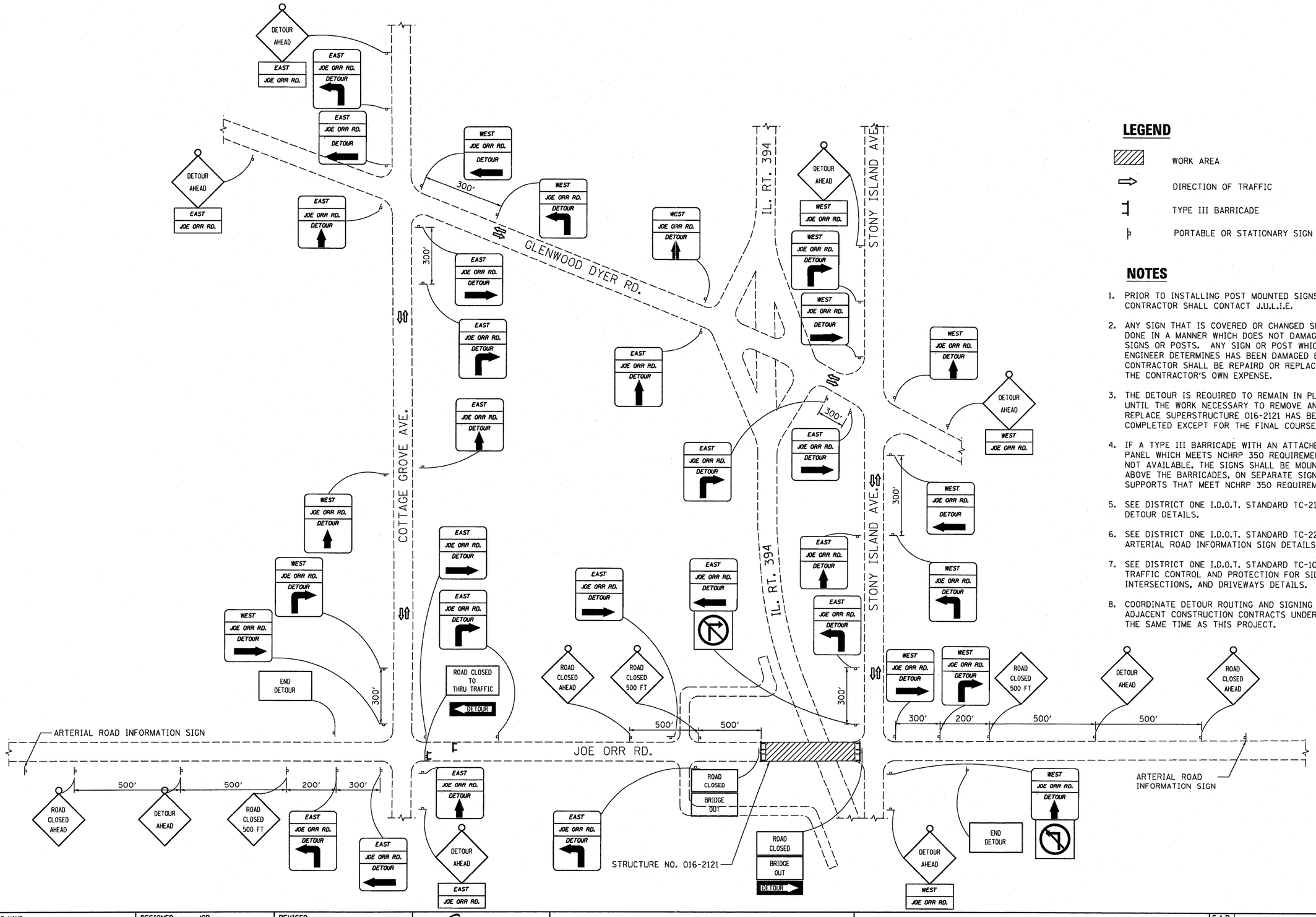
ALIGNMENT, TIES AND BENCHMARKS

SCALE: 1" = 50' | SHEET NO. 1 OF 1 SHEETS | STA. 0+00.00 TO STA. 13+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	8
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



LEGEND

- WORK AREA
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- PORTABLE OR STATIONARY SIGN

N

NOTES

1. PRIOR TO INSTALLING POST MOUNTED SIGNS, THE CONTRACTOR SHALL CONTACT J.U.L.I.E.
2. ANY SIGN THAT IS COVERED OR CHANGED SHALL BE DONE IN A MANNER WHICH DOES NOT DAMAGE ANY SIGNS OR POSTS. ANY SIGN OR POST WHICH THE ENGINEER DETERMINES HAS BEEN DAMAGED BY THE CONTRACTOR SHALL BE REPAIRD OR REPLACED AT THE CONTRACTOR'S OWN EXPENSE.
3. THE DETOUR IS REQUIRED TO REMAIN IN PLACE UNTIL THE WORK NECESSARY TO REMOVE AND REPLACE SUPERSTRUCTURE 016-2121 HAS BEEN COMPLETED EXCEPT FOR THE FINAL COURSE LIFT.
4. IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.
5. SEE DISTRICT ONE I.D.O.T. STANDARD TC-21 FOR DETOUR DETAILS.
6. SEE DISTRICT ONE I.D.O.T. STANDARD TC-22 FOR ARTERIAL ROAD INFORMATION SIGN DETAILS.
7. SEE DISTRICT ONE I.D.O.T. STANDARD TC-10 FOR TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS DETAILS.
8. COORDINATE DETOUR ROUTING AND SIGNING WITH ADJACENT CONSTRUCTION CONTRACTS UNDERWAY AT THE SAME TIME AS THIS PROJECT.

FILE NAME = ...\01-xxxxx-sht009-detour.dgn	DESIGNED - JCP	REVISED -
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DETOUR PLAN

SCALE: N.T.S. | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	9
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		

SUGGESTED CONSTRUCTION STAGING TRAFFIC CONTROL

THE FOLLOWING SEQUENCE OF TRAFFIC CONTROL IS SUGGESTED. VARIATIONS MAY BE MADE, WITH THE APPROVAL OF THE ENGINEER, IF THE PREVAILING SITE CONDITIONS AT THE TIME OF CONSTRUCTION ALLOW.

STAGE I

PLACE TEMPORARY CONCRETE BARRIERS TO CLOSE OUTSIDE SHOULDERS OF ILLINOIS ROUTE 394 AS SHOWN ON PLANS. REMOVE PORTION OF EXISTING SUBSTRUCTURE. CONSTRUCT SUBSTRUCTURE MODIFICATIONS ON OUTSIDE SHOULDERS.

STAGE II

PLACE TEMPORARY CONCRETE BARRIERS TO CLOSE INSIDE SHOULDERS OF ILLINOIS ROUTE 394 AS SHOWN ON PLANS. REMOVE PORTION OF EXISTING SUBSTRUCTURE. CONSTRUCT SUBSTRUCTURE MODIFICATIONS ON INSIDE SHOULDERS.

SUGGESTED CONSTRUCTION STAGING TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL MAINTAIN SATISFACTORY INGRESS AND EGRESS TO ADJACENT PROPERTIES THROUGHOUT THE DURATION OF THE WORK.

2. 4 INCH SOLID WHITE LINES SHALL BE USED TO DELINEATE THE OUTSIDE EDGES OF THE PAVEMENT.

3. 4 INCH SOLID YELLOW LINES SHALL BE USED TO DELINEATE THE INSIDE EDGES OF THE PAVEMENT.

4. DOUBLE 4 INCH SOLID YELLOW LINES SHALL BE USED TO SEPARATE OPPOSITE LANES OF TRAFFIC.

5. EXISTING TRAFFIC CONTROL SIGNS AND MESSAGES SHALL BE TEMPORARILY COVERED, MODIFIED OR REMOVED AS DIRECTED BY THE ENGINEER.

6. ALL OF THE TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TRAFFIC CONTROL PLANS OR THE LATEST EDITION OF THE "ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND SHALL BE IN PLACE BEFORE CONSTRUCTION IS STARTED.

7. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND TRAFFIC CONTROL DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS DIRECTED BY THE ENGINEER.

8. TEMPORARY CONCRETE BARRIER AND TEMPORARY IMPACT ATTENUATORS SHALL BE PLACED AS INDICATED IN THE PLANS. THIS WORK SHALL BE IN ACCORDANCE WITH SECTION 704 OF THE STANDARD SPECIFICATIONS. TEMPORARY CONCRETE BARRIER SHALL BE PLACED AT LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE IN ACCORDANCE WITH SECTION 704 OF THE STANDARD SPECIFICATIONS.

9. THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE CONSTRUCTION SIGNING, SIGNS SHALL BE ERECTED ONE WEEK IN ADVANCE OF THE START OF CONSTRUCTION. SIGNS SHALL BE REMOVED OR COVERED WHEN PROTECTION IS NOT REQUIRED AND RESTORED AS APPROPRIATE.

10. CONSTRUCTION WORK WILL NOT COMMENCE UNTIL ALL SIGNS AND PAVEMENT MARKINGS IN CONFLICT WITH THE STAGED CONSTRUCTION HAVE BEEN REMOVED AND ALL TEMPORARY SIGNS, PAVEMENT MARKINGS AND BARRICADES ARE IN PLACE AND APPROVED BY THE ENGINEER.

11. THE CONTRACTOR SHALL PROVIDE ALL BARRIERS, SIGNS, SUPPORTS. PAVEMENT MARKING MATERIALS AND LABOR NECESSARY FOR THE MAINTENANCE OF TRAFFIC UNLESS NOTED OTHERWISE IN THE SPECIAL PROVISIONS.

12. IMMEDIATELY AFTER THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL RESTORE ALL PERMANENT PAVEMENT MARKINGS, SIGNS AND OTHER TRAFFIC CONTROL DEVICES THAT WERE COVERED, REMOVED, MODIFIED, DAMAGED OR OTHERWISE AFFECTED BY THE CONSTRUCTION.

13. TRAFFIC CONTROL AND PROTECTION WORK ON ILLINOIS ROUTE 394 SHALL CONSIST OF SHOULDER CLOSURES (AS SHOWN ON THE PLANS) IN ACCORDANCE WITH THE FOLLOWING DISTRICT ONE I.D.O.T. TRAFFIC CONTROL STANDARD TC-17, AND AS DIRECTED BY THE ENGINEER. THIS STANDARD WILL BE PAID FOR AS TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).

14. TRAFFIC CONTROL DEVICES AND TEMPORARY CONCRETE BARRIER WALL SHALL BE IN ACCORDANCE WITH I.D.O.T. TRAFFIC CONTROL STANDARD 701901 AND 704001.

15. PROTECTIVE SHIELD SHALL BE INSTALLED TO PROTECT THE PUBLIC FROM ANY FALLING DEBRIS.

16. FOR EACH STAGE OF CONSTRUCTION PROVIDE TRAFFIC CONTROL AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS, COORDINATE INSTALLATION OF TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES WITH THE EXISTING TRAFFIC PATTERNS AT THE ENDS OF THE PROJECT.

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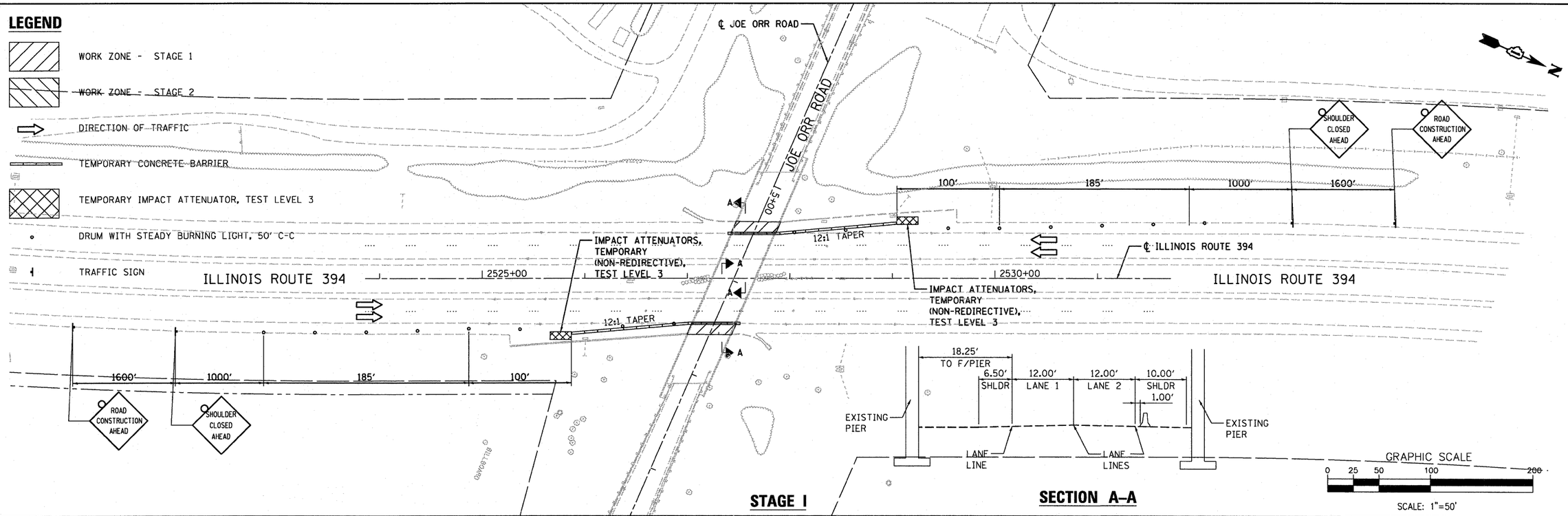
SUGGESTED STAGES OF CONSTRUCTION NOTES

SCALE: N/A | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	10
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

LEGEND

- WORK ZONE - STAGE 1
- WORK ZONE - STAGE 2
- DIRECTION OF TRAFFIC
- TEMPORARY CONCRETE BARRIER
- TEMPORARY IMPACT ATTENUATOR, TEST LEVEL 3
- DRUM WITH STEADY BURNING LIGHT, 50' C-C
- TRAFFIC SIGN

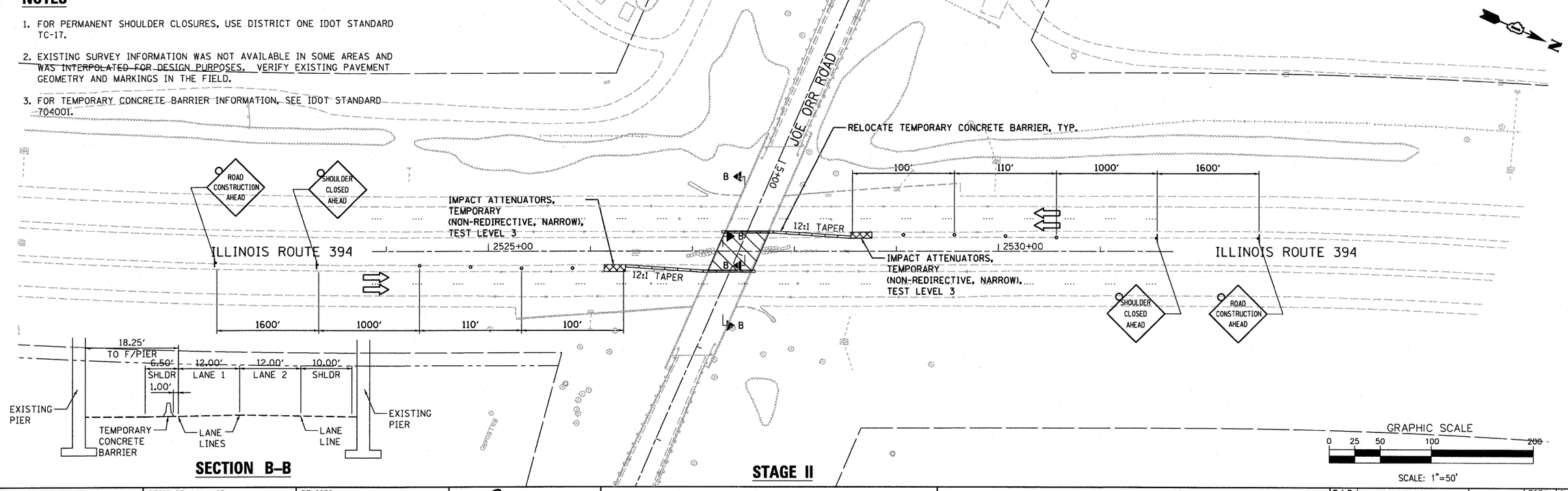


STAGE I

SECTION A–A

NOTES

1. FOR PERMANENT SHOULDER CLOSURES, USE DISTRICT ONE IDOT STANDARD TC-17.
2. EXISTING SURVEY INFORMATION WAS NOT AVAILABLE IN SOME AREAS AND WAS INTERPOLATED FOR DESIGN PURPOSES. VERIFY EXISTING PAVEMENT GEOMETRY AND MARKINGS IN THE FIELD.
3. FOR TEMPORARY CONCRETE BARRIER INFORMATION, SEE IDOT STANDARD 704001.



STAGE II

SECTION B–B

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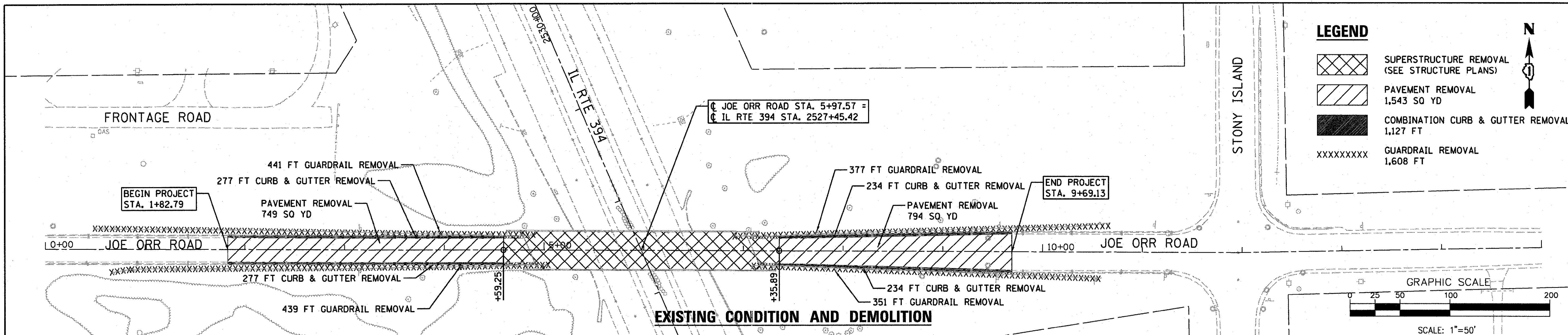
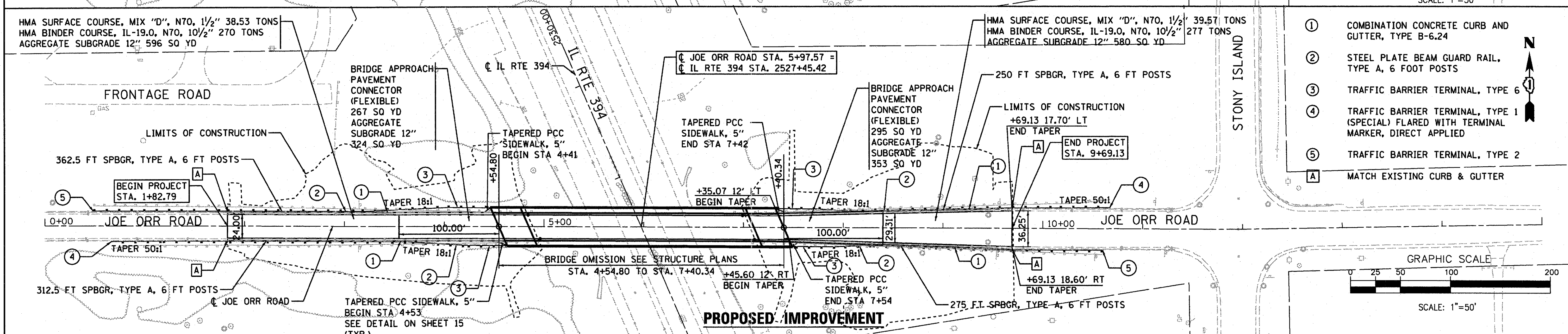
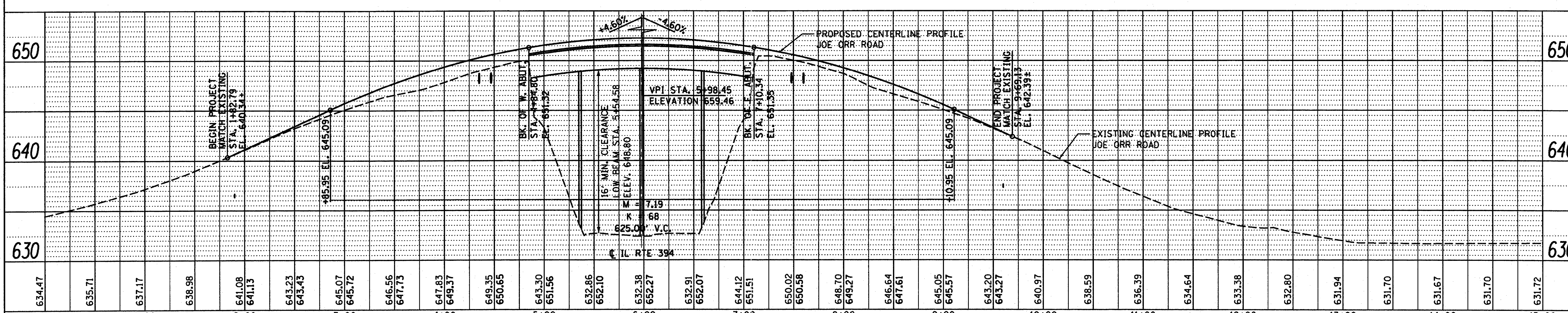
SUGGESTED STAGES OF CONSTRUCTION & ILLINOIS ROUTE 394 SHOULDER CLOSURES – STAGES 1 & 2

SCALE: 1" = 50' | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	11
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		







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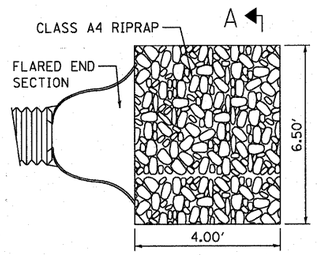
PLAN AND PROFILE

SCALE: 1" = 50' | SHEET NO. 1 OF 1 SHEETS | STA. 0+00.00 TO STA. 15+00.00

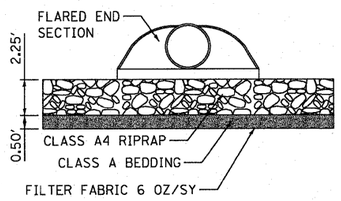
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	12
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		

PLAN: SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. NOT CHECKED / CADD FILE NAME / NOTE BOOK / NO. / BY / DATE

PROFILE: SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED CHECKED / STRUCTURE NOTATIONS CHKD / NOTE BOOK / NO. / BY / DATE



ROCK OUTLET PROTECTION



SECTION A-A

NOTES

1. SEE IDOT STANDARD 280001 FOR TEMPORARY EROSION CONTROL SYSTEM.
2. EROSION CONTROL MEASURES AS SHOWN SHALL BE PROVIDED AS A MINIMUM. THE CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL DEVICES, AS REQUIRED, TO COMPLY WITH ILLINOIS URBAN MANUAL.
3. AFTER INSTALLATION OF DRAINAGE STRUCTURES AND BEFORE THE GROUND IS STABILIZED WITH PERMANENT GROUND COVER OR PAVEMENT, CONTRACTOR TO PROVIDE INLET PROTECTION AROUND ALL DRAINAGE STRUCTURES.
4. THE CONTRACTOR SHALL PROVIDE DUST CONTROL BY APPLYING MULCHES, VEGETATIVE COVER, WATERING, STONE, STREET CLEANING, ETC. WHERE APPLICABLE.
5. PROVIDE TEMPORARY SEEDING WITHIN 7 DAYS FOR AREAS SUBJECT TO EROSION THAT WILL BE LEFT UNSTABILIZED FOR LONGER THAN 14 DAYS.
6. TEMPORARY SEEDING OF TOPSOIL STOCKPILES SHALL BE COMPLETED WITHIN 7 DAYS OF FORMATION OF THE STOCKPILE.
7. THE CONTRACTOR SHALL ENSURE THAT THE PERIMETER EROSION BARRIER IS CONSTRUCTED AND SET IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, GRADING OR OTHER DISTURBANCE OF THE EXISTING GROUND.
8. THE LOCATION OF THE PERIMETER EROSION BARRIER MAY BE ADJUSTED AS NEEDED FOR TEMPORARY CONSTRUCTION EASEMENTS FOR ACCESS TO THE SITE. THE CONTRACTOR SHALL ENSURE THAT ADJACENT PROPERTIES REMAIN PROTECTED FROM SEDIMENT DEPOSITION.
9. ALL DISTURBED AREAS SHALL BE RESTORED WITH PERMANENT CLASS 3 SEEDING, FERTILIZER AND EROSION CONTROL BLANKETS.

FILE NAME = ...\DI-xxxxx-sht013-ersc.dgn	DESIGNED - JCP	REVISED -
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EPSTEIN
600 WEST FULTON STREET
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60661-1259
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FAX 312 559 1217
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

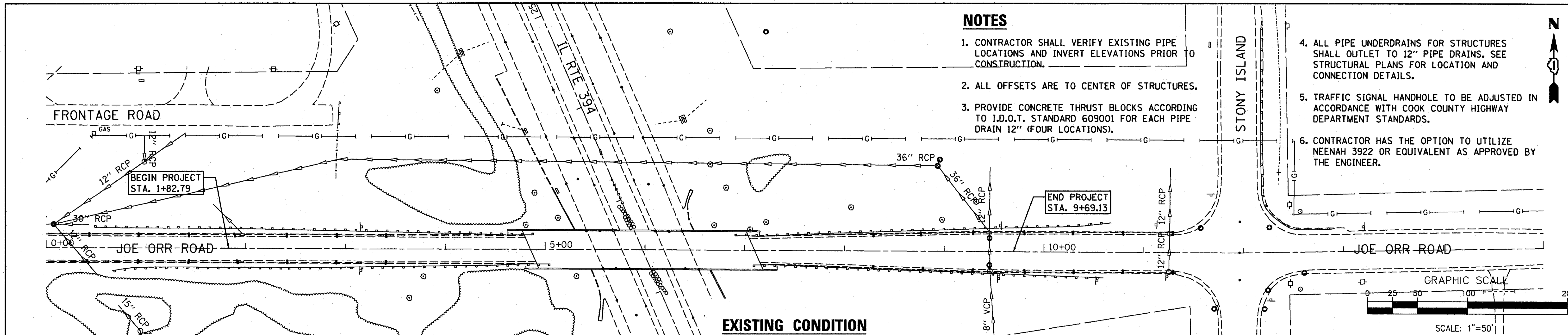
EROSION AND SEDIMENT CONTROL AND LANDSCAPING PLAN

SCALE: 1" = 50' | SHEET NO. 1 OF 1 SHEETS | STA. 0+00.00 TO STA. 13+00.00

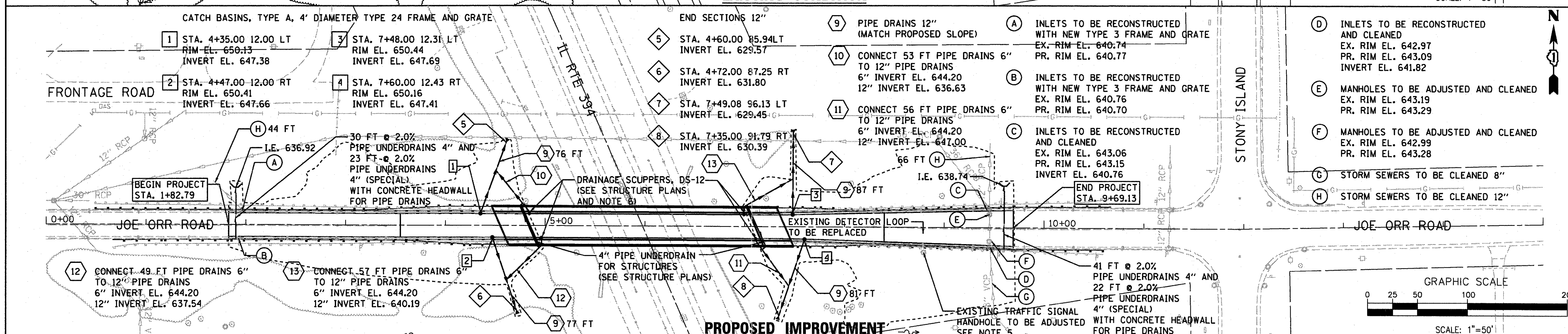
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	13
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		

NOTES

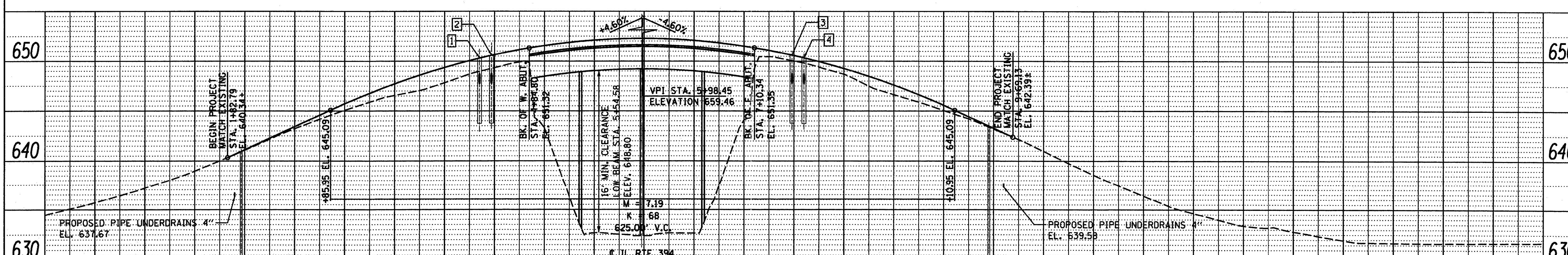
1. CONTRACTOR SHALL VERIFY EXISTING PIPE LOCATIONS AND INVERT ELEVATIONS PRIOR TO CONSTRUCTION.
2. ALL OFFSETS ARE TO CENTER OF STRUCTURES.
3. PROVIDE CONCRETE THRUST BLOCKS ACCORDING TO I.D.O.T. STANDARD 609001 FOR EACH PIPE DRAIN 12" (FOUR LOCATIONS).
4. ALL PIPE UNDERDRAINS FOR STRUCTURES SHALL OUTLET TO 12" PIPE DRAINS. SEE STRUCTURAL PLANS FOR LOCATION AND CONNECTION DETAILS.
5. TRAFFIC SIGNAL HANDHOLE TO BE ADJUSTED IN ACCORDANCE WITH COOK COUNTY HIGHWAY DEPARTMENT STANDARDS.
6. CONTRACTOR HAS THE OPTION TO UTILIZE NEENAH 3922 OR EQUIVALENT AS APPROVED BY THE ENGINEER.



EXISTING CONDITION



PROPOSED IMPROVEMENT



634.47	635.71	637.17	638.98	641.08 / 641.13	643.23 / 643.43	645.07 / 645.72	646.56 / 647.73	647.83 / 649.37	649.35 / 650.65	643.30 / 651.56	632.86 / 652.10	632.38 / 652.27	632.91 / 652.07	644.12 / 651.51	650.02 / 650.58	648.70 / 649.27

646.64 / 647.61	645.05 / 645.57	643.20 / 643.27	640.97	638.59	636.39	634.64	633.38	632.80	631.94	631.70	631.67	631.70	631.72	

-+00 | 1+00 | 2+00 | 3+00 | 4+00 | 5+00 | 6+00 | 7+00 | 8+00 | 9+00 | 10+00 | 11+00 | 12+00 | 13+00 | 14+00 | 15+00

PLAN: SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. NOTED CHECKED / CADD FILE NAME / NOTE BOOK / NO. — BY — DATE

PROFILE: SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED CHECKED / STRUCTURE NOTAT'NS CHK'D / NOTE BOOK / NO. — BY — DATE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE AND UTILITIES PLAN AND PROFILE

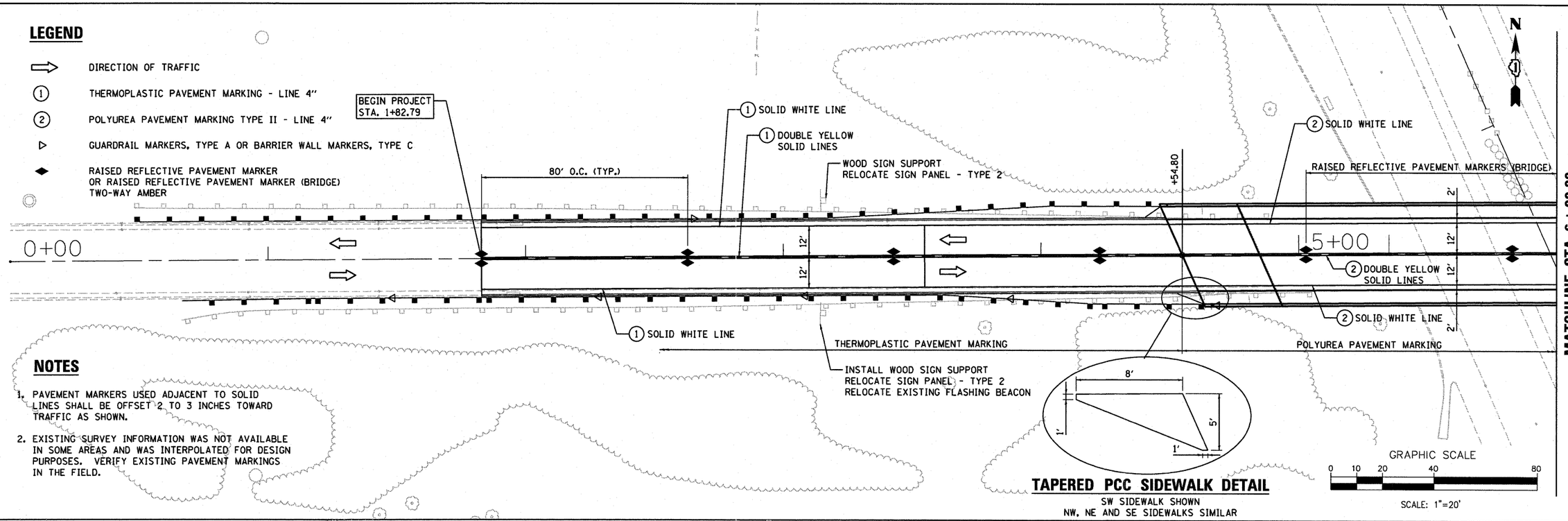
SCALE: 1" = 50' | SHEET NO. 1 OF 1 SHEETS | STA. 0+00.00 TO STA. 15+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	14
		CONTRACT NO. 62421		

ILLINOIS FED. AID PROJECT

LEGEND

- DIRECTION OF TRAFFIC
- (1) THERMOPLASTIC PAVEMENT MARKING - LINE 4"
- (2) POLYUREA PAVEMENT MARKING TYPE II - LINE 4"
- GUARDRAIL MARKERS, TYPE A OR BARRIER WALL MARKERS, TYPE C
- RAISED REFLECTIVE PAVEMENT MARKER
  OR RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)
  TWO-WAY AMBER



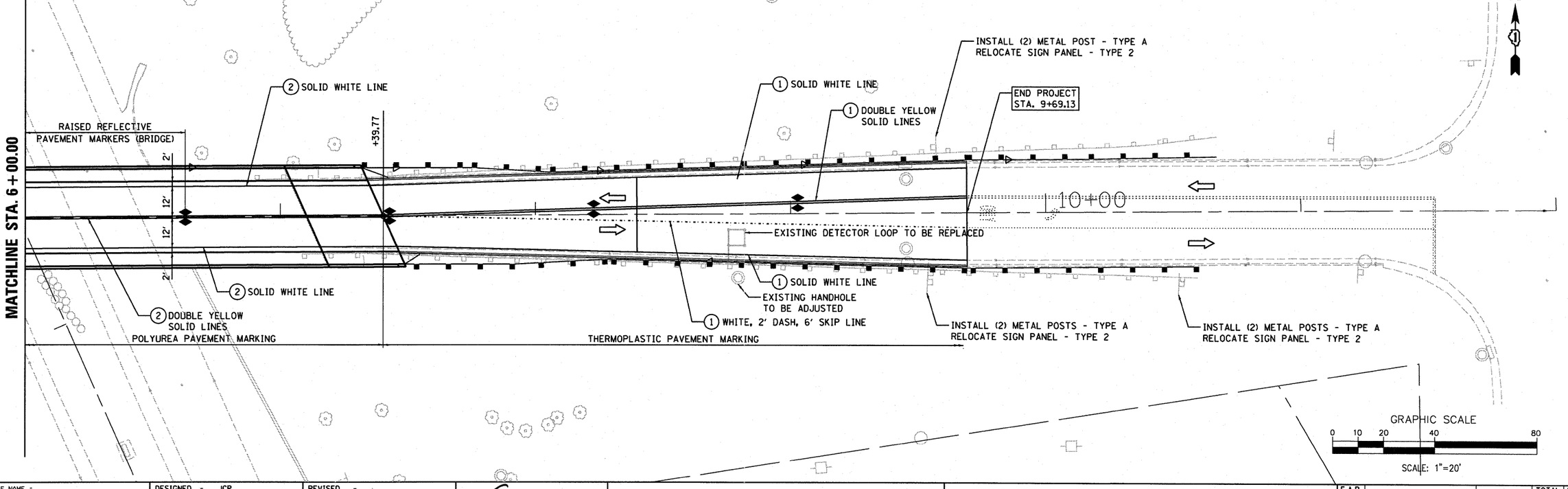
NOTES

1. PAVEMENT MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 INCHES TOWARD TRAFFIC AS SHOWN.
2. EXISTING SURVEY INFORMATION WAS NOT AVAILABLE IN SOME AREAS AND WAS INTERPOLATED FOR DESIGN PURPOSES. VERIFY EXISTING PAVEMENT MARKINGS IN THE FIELD.

TAPERED PCC SIDEWALK DETAIL

SW SIDEWALK SHOWN
NW, NE AND SE SIDEWALKS SIMILAR

GRAPHIC SCALE
0 10 20 40 80
SCALE: 1"=20'



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	DATE - 07/01/2011	REVISED -

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND SIGNING PLAN

SCALE: 1" = 20' | SHEET NO. 1 OF 1 SHEETS | STA. 0+00.00 TO STA. 12+00.00

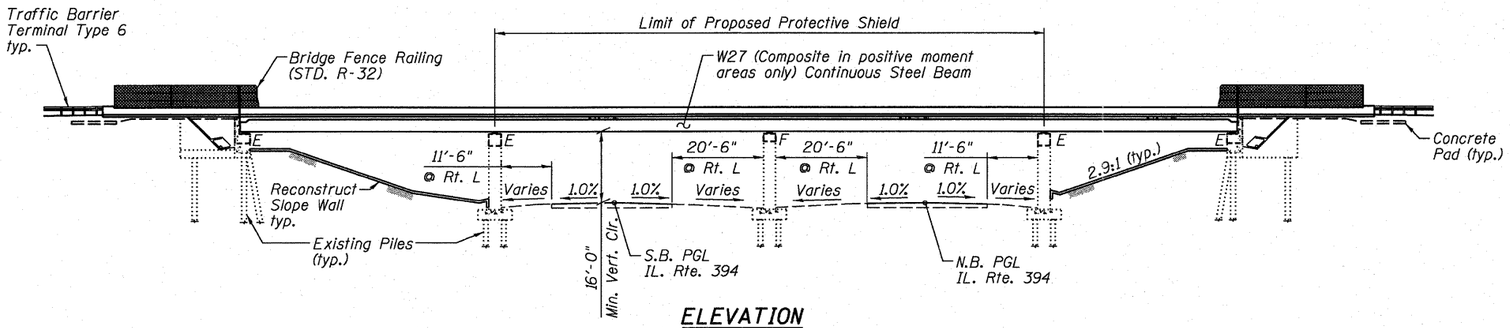
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	15
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

BM #117: Chiseled square located on top of jersey wall at the south end of easterly pier of Joe Orr Road bridge El. 635.00

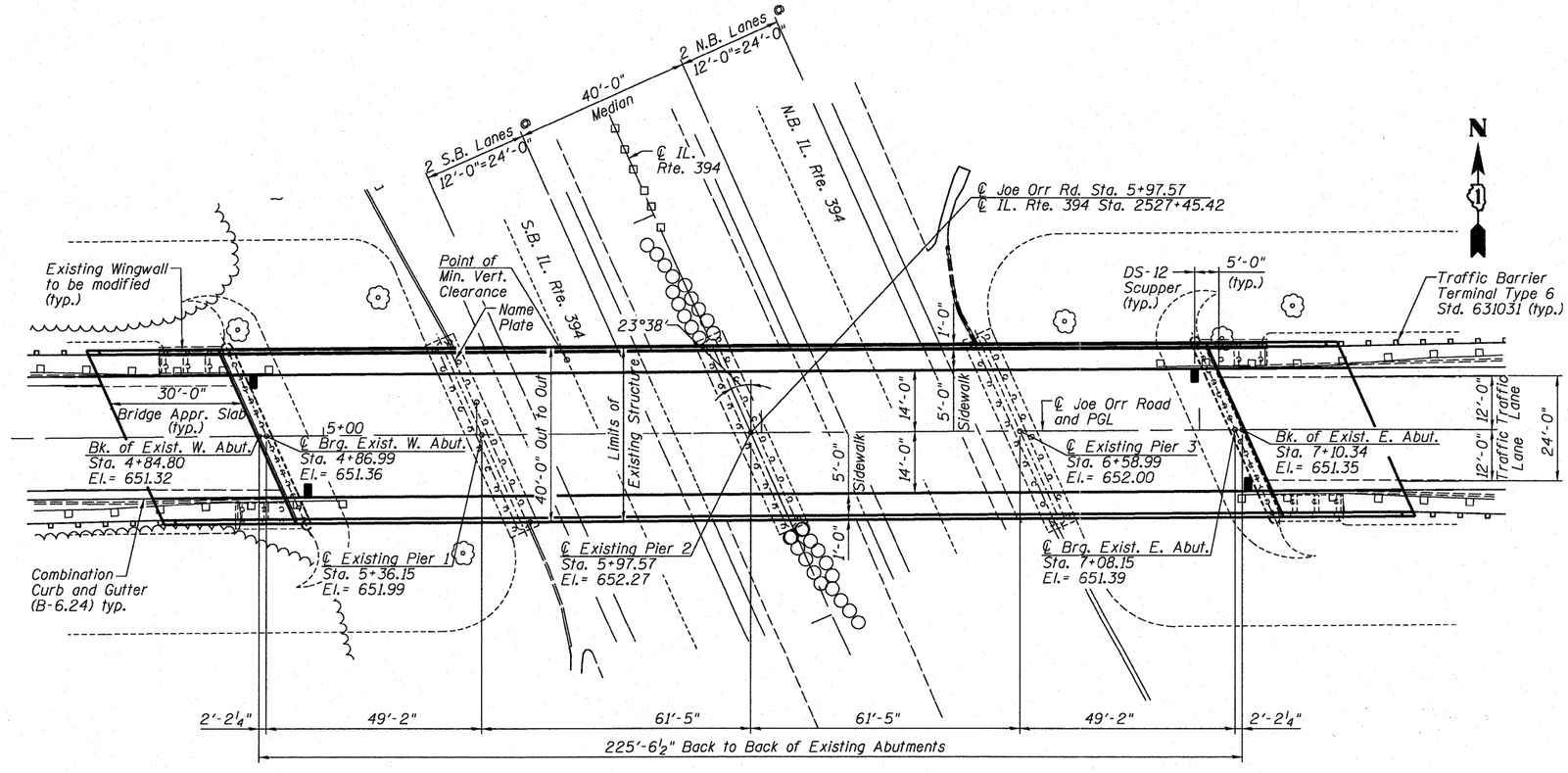
Existing Structure: S.N. 016-2121 Built in 1954 as part of F.A. Route 122 Section 066B-0101.1 at Sta. 5+97.57. The structure is a four-span bridge 225′-6½" long back to back of abutments and 40′-0" out to out of deck carrying two lanes of traffic. The superstructure consists of reinforced concrete deck on continuous wide flange steel beam structure. The substructure consists of solid stem concrete piers and spill thru abutments supported on concrete piles. The existing structure has a substandard minimum vertical clearance height of 14′-3" over IL Route 394.

The existing superstructure will be removed and replaced. The existing substructure will be repaired, modified and reused to increase the minimum vertical clearance to 16′-0". The concrete slope wall will be reconstructed. The traffic will be detoured to an alternate route.

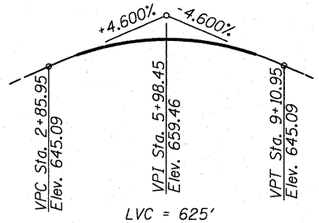
Salvage: None, except existing protective shield to be salvaged and returned to the IDOT Bridge Maintenance office located at Biesterfield Road in Elk Grove Village, IL. Phone No. 847-956-1501. 24 Hours advance notice is required. This work shall not be paid separately but shall be included in the cost of the work.



ELEVATION



PLAN



PROFILE GRADE
(along ℄ Joe Orr Road)

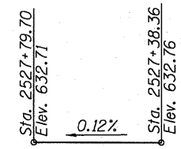
DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS 20-44
Allow 25#/sq. ft. for future wearing surface.

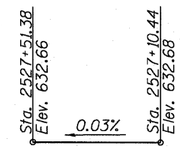
DESIGN STRESSES
FIELD UNITS (New Construction)
f′c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)
fy = 36,000 psi (M270 Grade 36)

FIELD UNITS (Existing Construction)
fc = 1,400 psi
fs = 20,000 psi (Reinforcement)

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.5



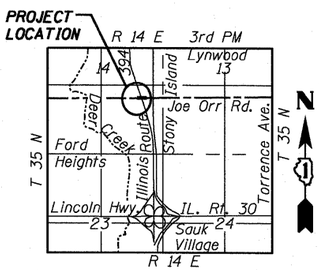
PROFILE GRADE
(along S.B. PGL IL. Rte. 394)



PROFILE GRADE
(along N.B. PGL IL. Rte. 394)

STATION 2527+45.42
RE-BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT. 332 SEC. 0101.1 BR-3
LOADING HS20-44
STR. NO. 016-2121

NAME PLATE
Existing Name Plate located on the west face of the Pier 3 shall be removed and discarded. Existing Name Plate located on the east face of the Pier 1 shall be cleaned and new Name Plate shall be located next to it. Cost included with Name Plates.



LOCATION MAP

PIJUSH K. CHATTERJEE 081-005076 LICENSED STRUCTURAL ENGINEER ILLINOIS

Pijush K. Chatterjee 6-30-2011
Expires: 11-30-2012

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

Note:

Section thru Abutment and Slopewall Details shown on sheet S24.

GENERAL PLAN AND ELEVATION
IL ROUTE 394 at JOE ORR ROAD
F.A.P. RT. 332 SECTION 0101.1 BR-3
COOK COUNTY
STATION 2527+45.42
STRUCTURE NO. 016-2121

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EPSTEIN
800 WEST FULTON STREET, CHICAGO, ILLINOIS 60661-1258
TEL 312 454 9100 FAX 312 588 1217 WEB www.epsteinglobal.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S1 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	16
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $^{7}/_{8}$" ϕ, holes $^{15}/_{16}$" ϕ, unless otherwise noted.

Calculated weight of Structural Steel:
AASHTO M270 Grade 50 = 220,750 lbs.
AASHTO M270 Grade 36 = 13,470 lbs.

No field welding is permitted except as specified in the contract documents.

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of the exterior surfaces and the bottom of the bottom flange of fascia beams, masked off connection surfaces, field installed fasteners and damaged areas shall be touched up and finish coated in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and the bottom of the bottom flange of fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4. See Special Provision for "Cleaning and Painting New Metal Structures."

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Concrete Sealer shall be applied to the designated areas of the abutments.

Slipforming of the parapets is not allowed.

Contractor may remove and replace existing cable guardrail along IL Rte. 394 to have access to the median with no additional cost to the District.

TOTAL BILL OF MATERIAL

ITEMS	UNITS	SUPERSTRUCTURE	SUBSTRUCTURE	TOTAL
POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD		76	76
REMOVAL OF EXISTING SUPERSTRUCTURE	EACH	1		1
CONCRETE REMOVAL	CU YD		19.1	19.1
SLOPE WALL REMOVAL	SQ YD		450	450
PROTECTIVE SHIELD	SQ YD			921
STRUCTURE EXCAVATION	CU YD		88	88
CONCRETE STRUCTURES	CU YD		82.5	82.5
CONCRETE SUPERSTRUCTURE	CU YD	475.2		475.2
BRIDGE DECK GROOVING	SQ YD	826		826
PROTECTIVE COAT	SQ YD	1,440		1,440
FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1
STUD SHEAR CONNECTORS	EACH	3,960		3,960
REINFORCEMENT BARS, EPOXY COATED	POUND	105,370	13,430	118,800
BAR SPLICERS	EACH	82		82
BRIDGE FENCE RAILING	FOOT	549		549
SLOPE WALL 4 INCH	SQ YD		536	536
NAME PLATES	EACH			1
PREFORMED JOINT STRIP SEAL	FOOT	88.5		88.5
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12		12
ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	12		12
ANCHOR BOLTS, 1 1/4"	EACH	60		60
CONCRETE SEALER	SQ FT		50	50
EPOXY CRACK INJECTION	FOOT		61	61
GEOCOMPOSITE WALL DRAIN	SQ YD		52	52
PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT		90	90
DRAINAGE SCUPPERS, DS-12	EACH	4		4
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT		101	101
DRAINAGE SYSTEM	L SUM			1

INDEX OF BRIDGE DRAWINGS

S1 General Plan and Elevation
S2 General Data
S3 Top of Slab Elevations I
S4 Top of Slab Elevations II
S5 Top of Slab Elevations III
S6 Top of Slab Elevations IV
S7 Top of West Approach Slab Elevations
S8 Top of East Approach Slab Elevations
S9 Superstructure Plan and Cross Section
S10 Superstructure Details 1
S11 Superstructure Details 2
S12 Approach Slab
S13 Approach Slab Details
S14 Framing Plan
S15 Diaphragm Details
S16 Beam Details
S17 Bearing Details 1
S18 Bearing Details 2
S19 Preformed Joint Strip Seal Details
S20 Bridge Fence Railing, Parapet Mounted
S21 Cantilever Forming Brackets for Superstructures With W27 Beams and Smaller
S22 Abutment Modification
S23 Abutment Modification Details 1
S24 Abutment Modification Details 2
S25 Pier Modification Details
S26 Existing Substructure Repairs
S27 Bar Splicer Assembly and Mechanical Splicer Details
S28 Bridge Drainage Plan and Details
S29 Drainage Scupper DS-12

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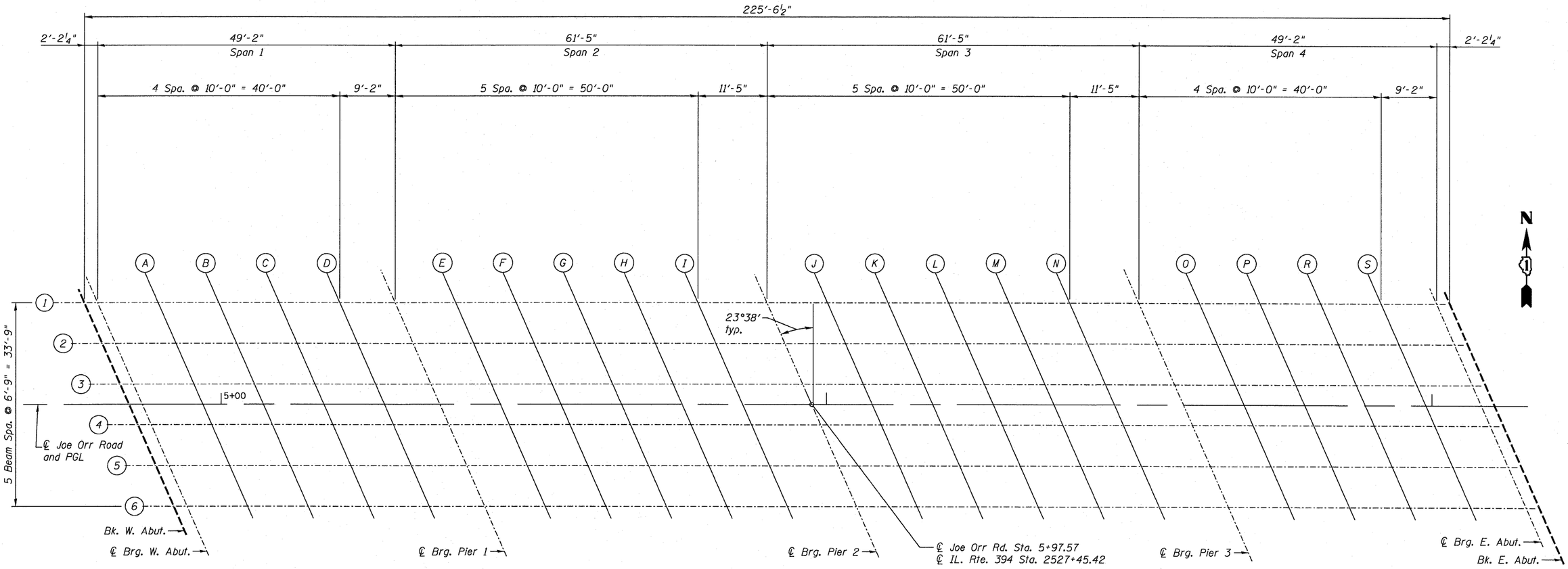
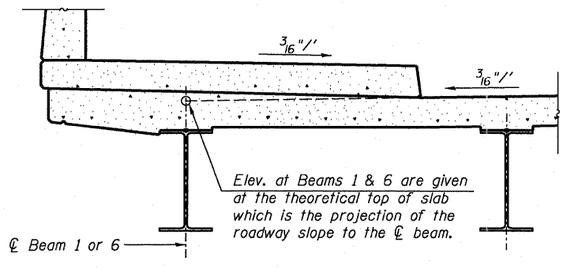
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 016-2121
SHEET NO. S2 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	17
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		





PROJECTION UNDER SIDEWALK DETAIL

Notes:
1. Work this sheet with sheets S4 thru S6.
2. For top of slab elevations at West Approach, see sheet S7.
3. For top of slab elevations at East Approach, see sheet S8.

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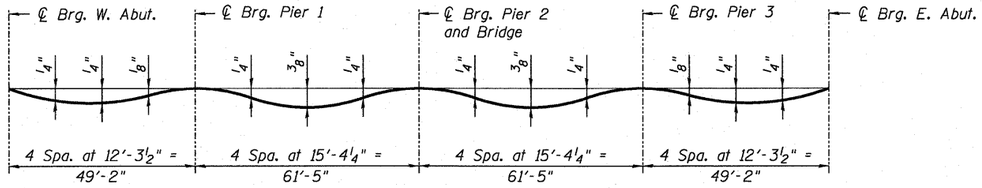
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS I
STRUCTURE NO. 016-2121
SHEET NO. S3 OF S29 SHEETS

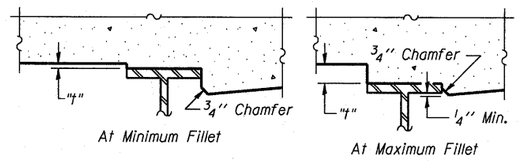
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	18
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete deck, fillet, parapets and sidewalks)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below and on sheets S5 and S6.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below and on sheets S5 and S6. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT.	4+77.41	-16.88	650.93	650.93
CL BRG. W. ABUT.	4+79.60	-16.88	650.97	650.97
A	4+89.60	-16.88	651.14	651.15
B	4+99.60	-16.88	651.29	651.31
C	5+09.60	-16.88	651.43	651.44
D	5+19.60	-16.88	651.55	651.56
CL PIER 1	5+28.77	-16.88	651.65	651.65
E	5+38.77	-16.88	651.75	651.76
F	5+48.77	-16.88	651.83	651.85
G	5+58.77	-16.88	651.89	651.92
H	5+68.77	-16.88	651.94	651.97
I	5+78.77	-16.88	651.98	651.99
CL PIER 2	5+90.18	-16.88	652.00	652.00
J	6+00.18	-16.88	652.01	652.02
K	6+10.18	-16.88	652.00	652.02
L	6+20.18	-16.88	651.97	652.00
M	6+30.18	-16.88	651.93	651.96
N	6+40.18	-16.88	651.88	651.89
CL PIER 3	6+51.60	-16.88	651.80	651.80
O	6+61.60	-16.88	651.72	651.72
P	6+71.60	-16.88	651.62	651.63
R	6+81.60	-16.88	651.50	651.52
S	6+91.60	-16.88	651.37	651.38
CL BRG.E ABUT	7+00.77	-16.88	651.24	651.24
BK E. ABUT	7+02.95	-16.88	651.21	651.21

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT.	4+80.37	-10.13	651.09	651.09
CL BRG. W. ABUT.	4+82.55	-10.13	651.13	651.13
A	4+92.55	-10.13	651.29	651.30
B	5+02.55	-10.13	651.44	651.46
C	5+12.55	-10.13	651.57	651.59
D	5+22.55	-10.13	651.69	651.70
CL PIER 1	5+31.72	-10.13	651.79	651.79
E	5+41.72	-10.13	651.88	651.89
F	5+51.72	-10.13	651.95	651.98
G	5+61.72	-10.13	652.02	652.05
H	5+71.72	-10.13	652.06	652.08
I	5+81.72	-10.13	652.09	652.11
CL PIER 2	5+93.14	-10.13	652.11	652.11
J	6+03.14	-10.13	652.11	652.12
K	6+13.14	-10.13	652.10	652.12
L	6+23.14	-10.13	652.07	652.10
M	6+33.14	-10.13	652.03	652.05
N	6+43.14	-10.13	651.97	651.98
CL PIER 3	6+54.55	-10.13	651.88	651.88
O	6+64.55	-10.13	651.79	651.80
P	6+74.55	-10.13	651.69	651.71
R	6+84.55	-10.13	651.57	651.59
S	6+94.55	-10.13	651.43	651.45
CL BRG.E ABUT	7+03.72	-10.13	651.30	651.30
BK E. ABUT	7+05.90	-10.13	651.26	651.26

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT.	4+83.32	-3.38	651.24	651.24
CL BRG. W. ABUT.	4+85.51	-3.38	651.28	651.28
A	4+95.51	-3.38	651.44	651.45
B	5+05.51	-3.38	651.58	651.60
C	5+15.51	-3.38	651.71	651.73
D	5+25.51	-3.38	651.83	651.84
CL PIER 1	5+34.68	-3.38	651.92	651.92
E	5+44.68	-3.38	652.01	652.02
F	5+54.68	-3.38	652.08	652.10
G	5+64.68	-3.38	652.14	652.17
H	5+74.68	-3.38	652.18	652.20
I	5+84.68	-3.38	652.21	652.22
CL PIER 2	5+96.09	-3.38	652.22	652.22
J	6+06.09	-3.38	652.22	652.23
K	6+16.09	-3.38	652.20	652.22
L	6+26.09	-3.38	652.16	652.19
M	6+36.09	-3.38	652.12	652.14
N	6+46.09	-3.38	652.05	652.07
CL PIER 3	6+57.51	-3.38	651.96	651.96
O	6+67.51	-3.38	651.87	651.88
P	6+77.51	-3.38	651.76	651.78
R	6+87.51	-3.38	651.64	651.66
S	6+97.51	-3.38	651.50	651.51
CL BRG.E ABUT	7+06.68	-3.38	651.36	651.36
BK E. ABUT	7+08.86	-3.38	651.32	651.32

Notes:
1. Work this sheet with sheets S3, S5 and S6.
2. For top of slab elevations at West Approach, see sheet S7.
3. For top of slab elevations at East Approach, see sheet S8.

E-S 7-1-10

FILE NAME = ...\0162121-004-TOS.Elev11.dgn	DESIGNED EV	REVISED -
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TOP OF SLAB ELEVATIONS II
STRUCTURE NO. 016-2121
SHEET NO. S4 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	19
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

℄ ROAD AND PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT.	4+84.80	0.00	651.32	651.32
CL BRG. W. ABUT.	4+86.99	0.00	651.36	651.36
A	4+96.99	0.00	651.51	651.53
B	5+06.99	0.00	651.66	651.68
C	5+16.99	0.00	651.78	651.80
D	5+26.99	0.00	651.90	651.90
CL PIER 1	5+36.15	0.00	651.99	651.99
E	5+46.15	0.00	652.07	652.08
F	5+56.15	0.00	652.14	652.16
G	5+66.15	0.00	652.20	652.23
H	5+76.15	0.00	652.24	652.26
I	5+86.15	0.00	652.26	652.27
CL PIER 2	5+97.57	0.00	652.27	652.27
J	6+07.57	0.00	652.27	652.28
K	6+17.57	0.00	652.25	652.27
L	6+27.57	0.00	652.21	652.24
M	6+37.57	0.00	652.16	652.18
N	6+47.57	0.00	652.09	652.11
CL PIER 3	6+58.99	0.00	652.00	652.00
O	6+68.99	0.00	651.91	651.91
P	6+78.99	0.00	651.80	651.81
R	6+88.99	0.00	651.67	651.69
S	6+98.99	0.00	651.53	651.54
CL BRG.E ABUT	7+08.15	0.00	651.39	651.39
BK E. ABUT	7+10.34	0.00	651.35	651.35

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT.	4+86.28	3.38	651.29	651.29
CL BRG. W. ABUT.	4+88.46	3.38	651.33	651.33
A	4+98.46	3.38	651.48	651.50
B	5+08.46	3.38	651.62	651.64
C	5+18.46	3.38	651.75	651.77
D	5+28.46	3.38	651.86	651.87
CL PIER 1	5+37.63	3.38	651.95	651.95
E	5+47.63	3.38	652.03	652.04
F	5+57.63	3.38	652.10	652.12
G	5+67.63	3.38	652.15	652.18
H	5+77.63	3.38	652.19	652.21
I	5+87.63	3.38	652.21	652.22
CL PIER 2	5+99.05	3.38	652.22	652.22
J	6+09.05	3.38	652.21	652.22
K	6+19.05	3.38	652.19	652.21
L	6+29.05	3.38	652.15	652.18
M	6+39.05	3.38	652.10	652.12
N	6+49.05	3.38	652.03	652.05
CL PIER 3	6+60.46	3.38	651.94	651.94
O	6+70.46	3.38	651.84	651.85
P	6+80.46	3.38	651.72	651.74
R	6+90.46	3.38	651.60	651.62
S	7+00.46	3.38	651.45	651.47
CL BRG.E ABUT	7+09.63	3.38	651.31	651.31
BK E. ABUT	7+11.81	3.38	651.27	651.27

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT.	4+89.23	10.13	651.24	651.24
CL BRG. W. ABUT.	4+91.42	10.13	651.27	651.27
A	5+01.42	10.13	651.42	651.44
B	5+11.42	10.13	651.56	651.58
C	5+21.42	10.13	651.68	651.69
D	5+31.42	10.13	651.78	651.79
CL PIER 1	5+40.59	10.13	651.87	651.87
E	5+50.59	10.13	651.95	651.96
F	5+60.59	10.13	652.01	652.03
G	5+70.59	10.13	652.06	652.09
H	5+80.59	10.13	652.09	652.11
I	5+90.59	10.13	652.11	652.12
CL PIER 2	6+02.00	10.13	652.11	652.11
J	6+12.00	10.13	652.10	652.11
K	6+22.00	10.13	652.07	652.10
L	6+32.00	10.13	652.03	652.06
M	6+42.00	10.13	651.97	652.00
N	6+52.00	10.13	651.90	651.92
CL PIER 3	6+63.42	10.13	651.80	651.80
O	6+73.42	10.13	651.70	651.71
P	6+83.42	10.13	651.58	651.60
R	6+93.42	10.13	651.45	651.47
S	7+03.42	10.13	651.30	651.32
CL BRG.E ABUT	7+12.59	10.13	651.16	651.16
BK E. ABUT	7+14.77	10.13	651.12	651.12

Notes:

1. *Work this sheet with sheets S3, S4 and S6.*
2. *For top of slab elevations at West Approach, see sheet S7.*
3. *For top of slab elevations at East Approach, see sheet S8.*

E-S

7-1-10

FILE NAME = ...\0162121-005-TOS_ElevIII.dgn	DESIGNED EV	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS III
STRUCTURE NO. 016-2121
SHEET NO. S5 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	20
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT.	4+92.19	16.88	651.18	651.18
CL BRG. W. ABUT.	4+94.37	16.88	651.21	651.21
A	5+04.37	16.88	651.36	651.37
B	5+14.37	16.88	651.49	651.51
C	5+24.37	16.88	651.60	651.62
D	5+34.37	16.88	651.71	651.71
CL PIER 1	5+43.54	16.88	651.79	651.79
E	5+53.54	16.88	651.86	651.87
F	5+63.54	16.88	651.92	651.94
G	5+73.54	16.88	651.96	651.99
H	5+83.54	16.88	651.99	652.02
I	5+93.54	16.88	652.01	652.02
CL PIER 2	6+04.96	16.88	652.01	652.01
J	6+14.96	16.88	651.99	652.00
K	6+24.96	16.88	651.96	651.98
L	6+34.96	16.88	651.91	651.94
M	6+44.96	16.88	651.85	651.87
N	6+54.96	16.88	651.77	651.79
CL PIER 3	6+66.37	16.88	651.67	651.67
O	6+76.37	16.88	651.56	651.57
P	6+86.37	16.88	651.44	651.46
R	6+96.37	16.88	651.30	651.32
S	7+06.37	16.88	651.15	651.17
CL BRG.E ABUT	7+15.54	16.88	651.00	651.00
BK E. ABUT	7+17.72	16.88	650.96	650.96

Notes:
1. Work this sheet with sheets S3, S4 and S5.
2. For top of slab elevations at West Approach, see sheet S7.
3. For top of slab elevations at East Approach, see sheet S8.

E-S

7-1-10

FILE NAME = ...\0162121-886-TOS_ElevIV.dgn	DESIGNED EV	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS IV
STRUCTURE NO. 016-2121
SHEET NO. S6 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	21
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		

NORTH EDGE OF SIDEWALK

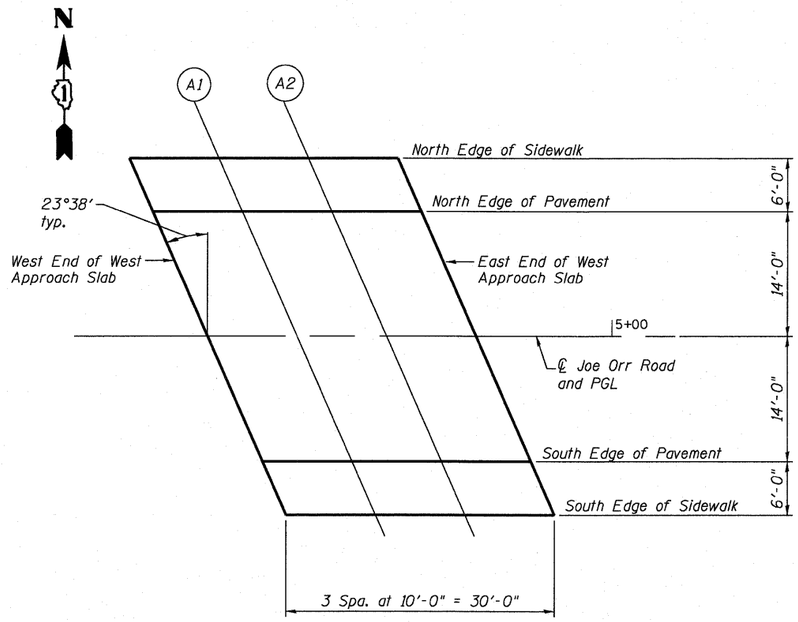
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	4+46.04	-20.00	650.25
A1	4+56.04	-20.00	650.47
A2	4+66.04	-20.00	650.67
E. End West Appr. Slab	4+76.04	-20.00	650.86

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	4+48.67	-14.00	650.40
A1	4+58.67	-14.00	650.62
A2	4+68.67	-14.00	650.81
E. End West Appr. Slab	4+78.67	-14.00	651.00

℄ ROADWAY, PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	4+54.80	0.00	650.75
A1	4+64.80	0.00	650.96
A2	4+74.80	0.00	651.15
E. End West Appr. Slab	4+84.80	0.00	651.32



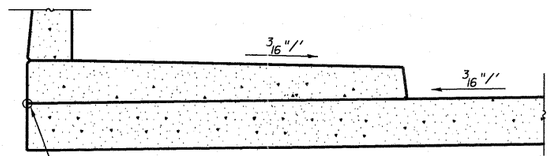
PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	4+60.93	14.00	650.66
A1	4+70.93	14.00	650.86
A2	4+80.93	14.00	651.04
E. End West Appr. Slab	4+90.93	14.00	651.20

SOUTH EDGE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	4+63.56	20.00	650.62
A1	4+73.56	20.00	650.81
A2	4+83.56	20.00	650.99
E. End West Appr. Slab	4+93.56	20.00	651.15



El. at Edge of Sidewalks are given at the theoretical top of Appr. slab which is the projection of the roadway slope to the Edge of sidewalk

PROJECTION UNDER SIDEWALK DETAIL

E-AS 7-1-10

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PLOT TIME = 5:17:44 PM	CHECKED PC	REVISED -
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DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-2121
SHEET NO. S7 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	22
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

NORTH EDGE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	7+01.58	-20.00	651.18
A3	7+11.58	-20.00	651.02
A4	7+21.58	-20.00	650.84
E. End East Appr. Slab	7+31.58	-20.00	650.66

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	7+04.21	-14.00	651.23
A3	7+14.21	-14.00	651.07
A4	7+24.21	-14.00	650.89
E. End East Appr. Slab	7+34.21	-14.00	650.70

℄ ROADWAY, PROFILE GRADE LINE

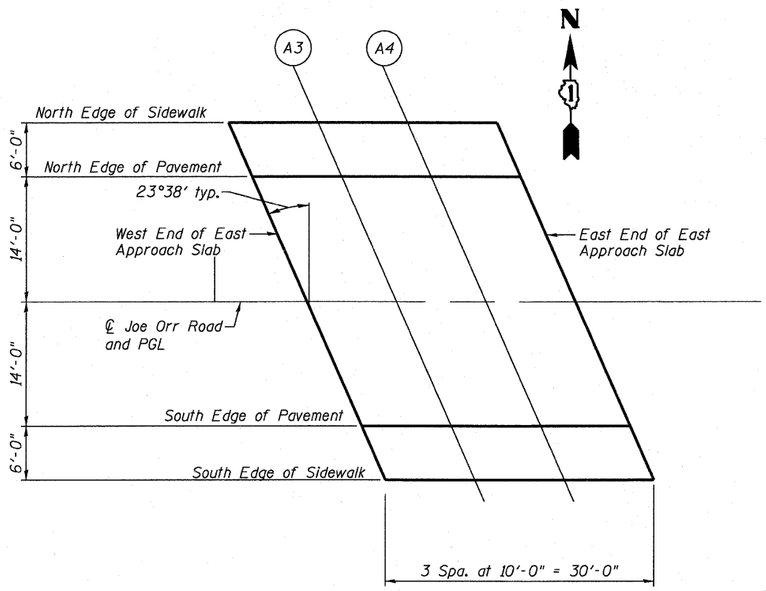
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	7+10.34	0.00	651.35
A3	7+20.34	0.00	651.18
A4	7+30.34	0.00	650.99
E. End East Appr. Slab	7+40.34	0.00	650.79

SOUTH EDGE OF PAVEMENT

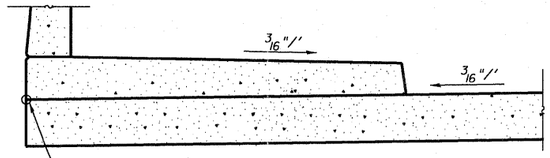
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	7+16.47	14.00	651.03
A3	7+26.47	14.00	650.85
A4	7+36.47	14.00	650.65
E. End East Appr. Slab	7+46.47	14.00	650.44

SOUTH EDGE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	7+19.09	20.00	650.89
A3	7+29.09	20.00	650.70
A4	7+39.09	20.00	650.50
E. End East Appr. Slab	7+49.09	20.00	650.29



PLAN



PROJECTION UNDER SIDEWALK DETAIL

E-AS 7-1-10

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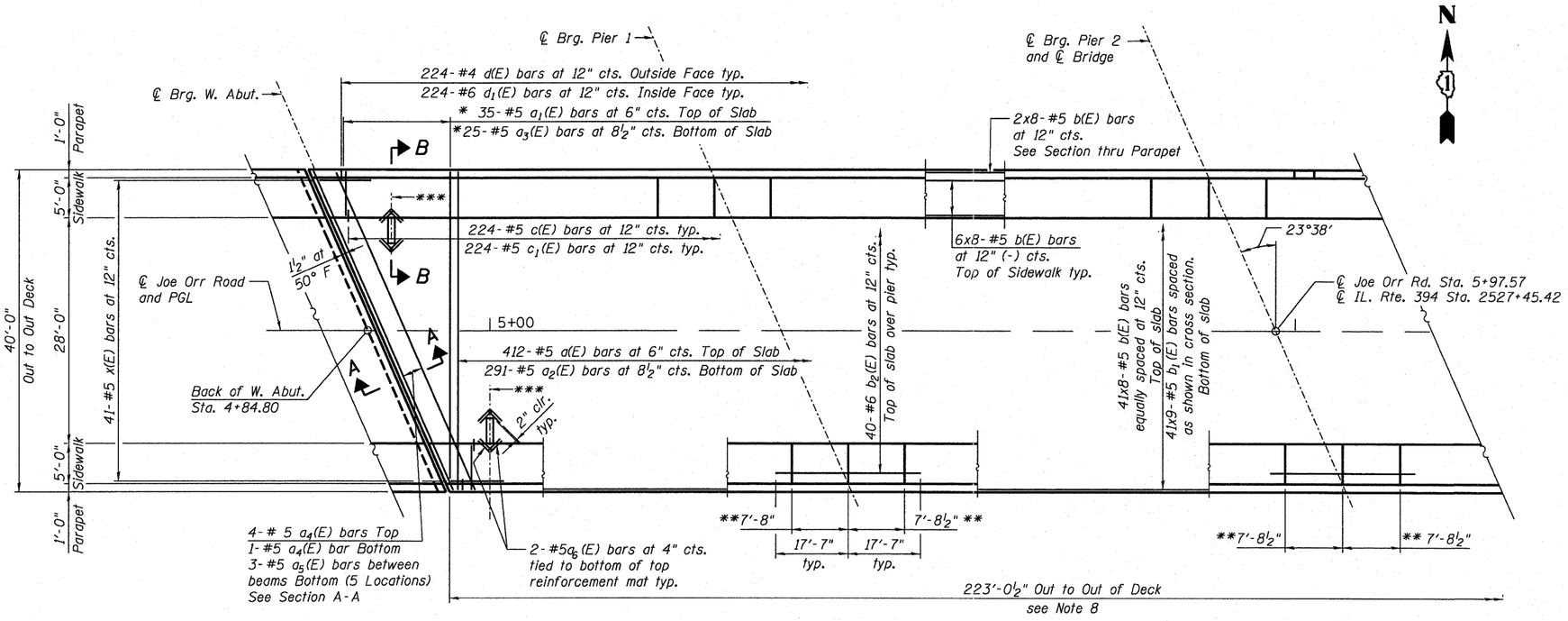
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-2121
SHEET NO. 58 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	23
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



PLAN

Symmetrical about ℄ Bridge

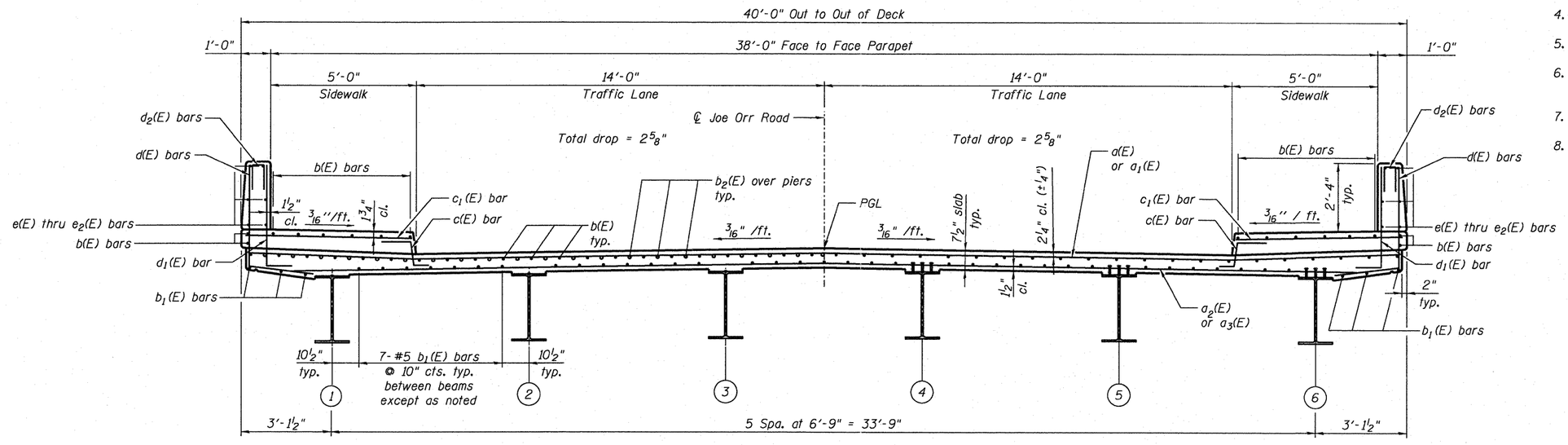
* Order $a_1(E)$ and $a_3(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.

** ¼"x¾" Formed Joint with concrete sealer (full width along joint - backer rod not required). Cost included with Concrete Superstructure see sheets S10 and S11 for details

*** ℄ Drainage Scupper. DS-12
Sta. 4+84.00 14' Lt.
Sta. 4+96.00 14' Rt.
Sta. 5+99.00 14' Lt.
Sta. 6+11.00 14' Rt.

MINIMUM BAR LAP

(Slab)
#5 bar = 3'-3"



NEAR PIER — **NEAR MIDSPAN**

CROSS SECTION

(Looking East)
Bridge Fence Railing Not Shown for clarity

Notes:

1. For parapet elevation, bar bending diagrams and Bill of Material, see sheet S11.
2. For Sections A-A and B-B and Section thru Sidewalk, see sheet S10.
3. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. For preformed joint strip detail, see sheet S19.
5. For Bridge Fence Railing details see sheet S20.
6. Cut longitudinal reinforcement to clear drainage scuppers.
7. For drainage plan and detail, see sheet S28.
8. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on sheet S19.

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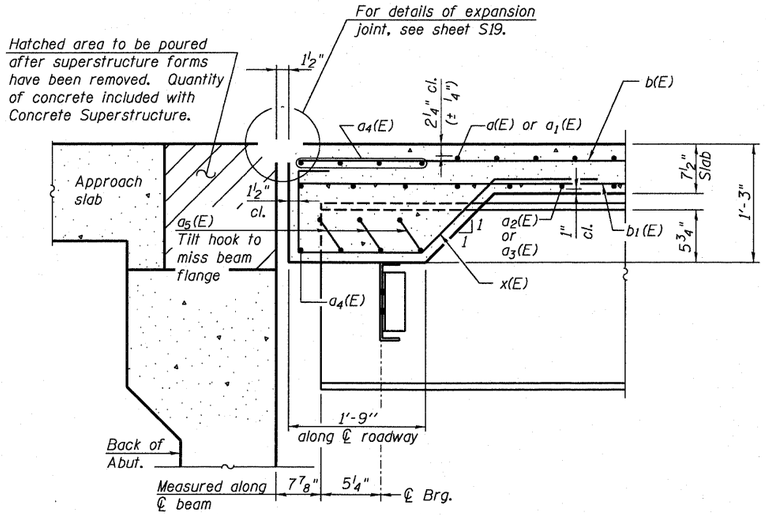
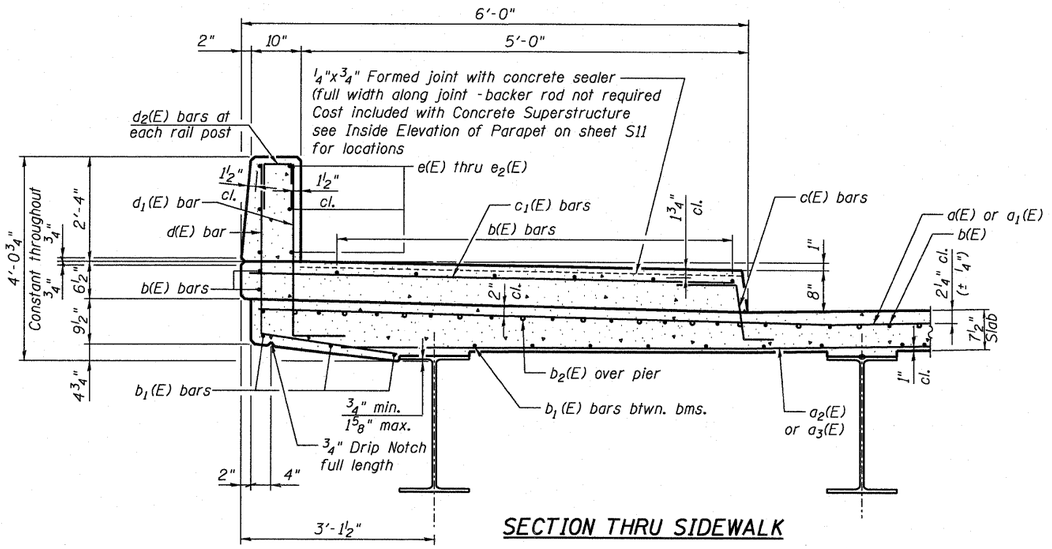
SUPERSTRUCTURE PLAN AND CROSS SECTION
STRUCTURE NO. 016-2121
SHEET NO. S9 OF S29 SHEETS

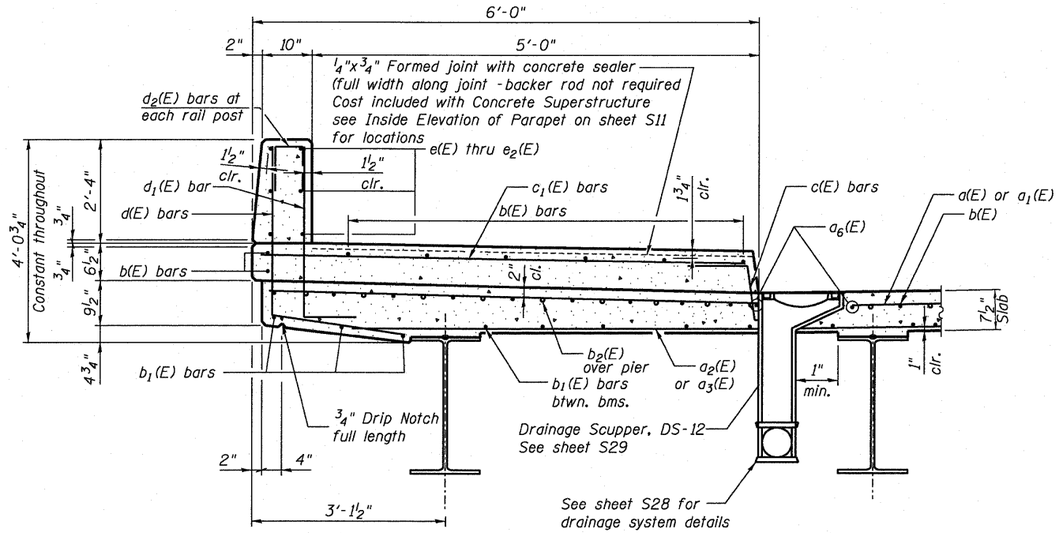
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	24
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		



SECTION A-A



SECTION THRU SIDEWALK



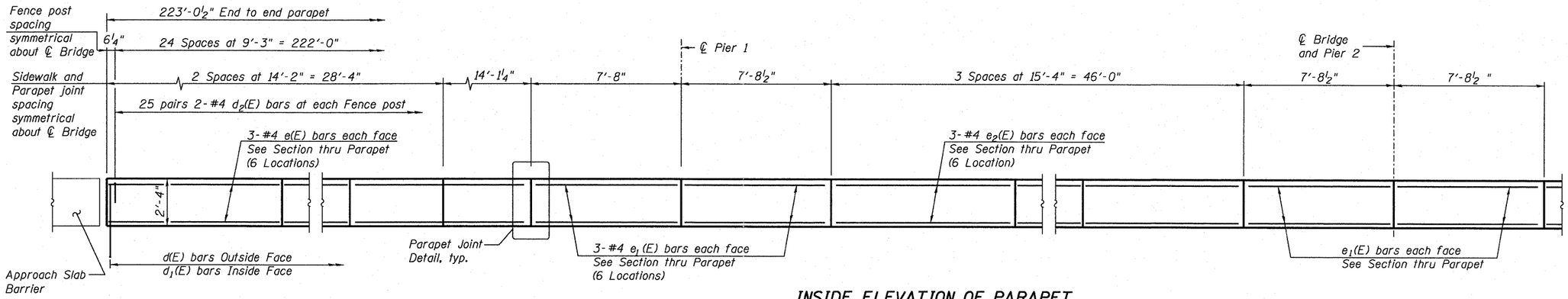
SECTION B-B

Notes:

1. For location of Sections A-A and B-B see sheet S9.
2. For bar bending diagrams and Bill of Materials, see sheet S11.
3. For Bridge Fence Railing details see sheet S20.

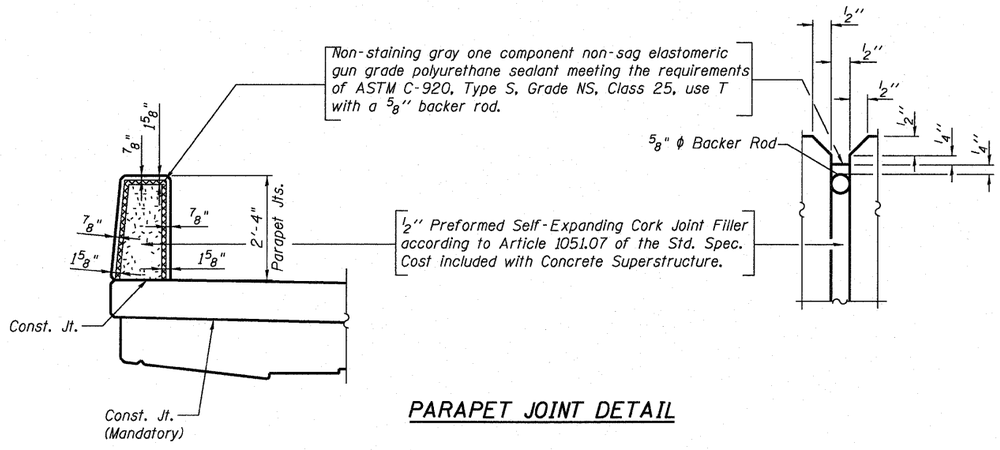
FILE NAME = ...\0162121-810-DeckDetails1.dgn	DESIGNED EV	REVISED -	EPSTEIN 600 WEST FULTON STREET CHICAGO, ILLINOIS 60661-1259 TEL 312 454 9100 FAX 312 559 1217 WEB www.epsteinglobal.com	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS 1 STRUCTURE NO. 016-2121 SHEET NO. S10 OF S29 SHEETS
PLOT TIME = 5:18:52 PM	DRAWN JCP	REVISED -			
PLOT DATE = 6/29/2011	CHECKED PC	REVISED -			
	DATE 07 01 2011	REVISED -			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	25
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		

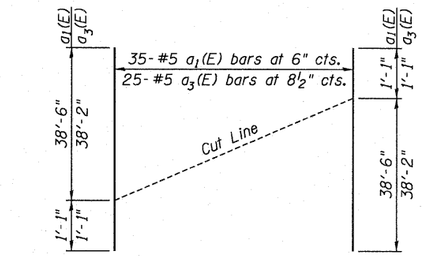


INSIDE ELEVATION OF PARAPET

North Parapet Looking North Shown,
South Parapet Looking South is Similar
Dimensions along Inside Face of Parapet

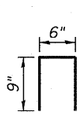


PARAPET JOINT DETAIL

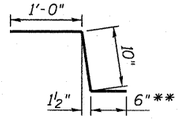


FIELD CUTTING DIAGRAM

Order $a_1(E)$ and $a_3(E)$ bars full length. Cut as shown and use remainder of bars in opposite face.

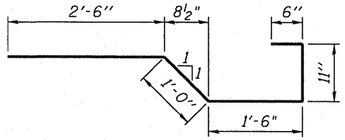


BAR $d_2(E)$

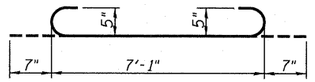


BAR c(E)

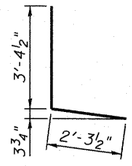
** In lieu of bottom leg, c(E) bars may be cored and set according to Article 509.06 of Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of cored hole shall not exceed 6".



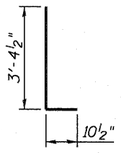
BAR x(E)



BAR $a_5(E)$



BAR d(E)



BAR $d_1(E)$

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	412	#5	39' - 6"	
$a_1(E)$	35	#5	39' - 7"	
$a_2(E)$	291	#5	39' - 4"	
$a_3(E)$	25	#5	39' - 3"	
$a_4(E)$	10	#5	43' - 4"	
$a_5(E)$	30	#5	8' - 3"	
$a_6(E)$	32	#5	2' - 0"	
b(E)	456	#5	30' - 9"	
$b_1(E)$	369	#5	27' - 8"	
$b_2(E)$	120	#6	35' - 2"	
c(E)	448	#5	2' - 4"	
$c_1(E)$	448	#5	5' - 9"	
d(E)	448	#4	5' - 8"	
$d_1(E)$	448	#6	4' - 3"	
$d_2(E)$	100	#4	2' - 0"	
e(E)	72	#4	13' - 10"	
$e_1(E)$	72	#4	7' - 5"	
$e_2(E)$	72	#4	15' - 1"	
x(E)	82	#5	6' - 5"	
Concrete Superstructure			Cu. Yd.	332.6
Bridge Deck Grooving			Sq. Yd.	652
Protective Coat			Sq. Yd.	1,135
Reinforcement Bars, Epoxy Coated			Pound	74,540

Notes:

1. Work this sheet with sheets S9 and S10.
2. For Bridge Fence Railing details see sheet S20.

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PLOT TIME = 2:52:59 PM	DRAWN JCP	REVISED -
PLOT DATE = 8/9/2011	CHECKED PC	REVISED -
	DATE 08 09 2011	REVISED -

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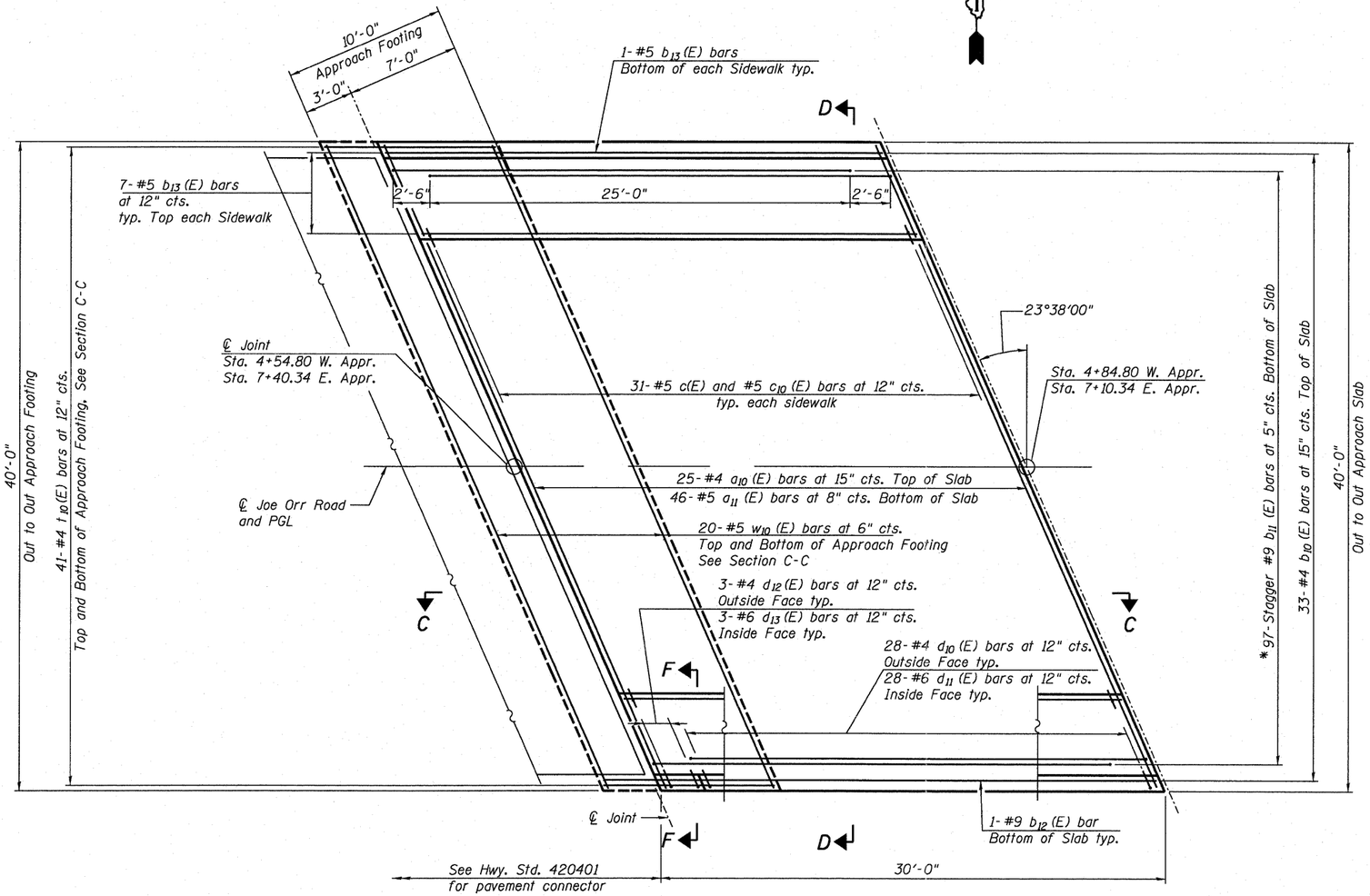
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS 2
STRUCTURE NO. 016-2121
SHEET NO. S11 OF S29 SHEETS

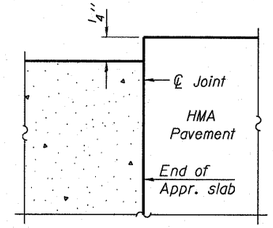
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	26
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



PLAN

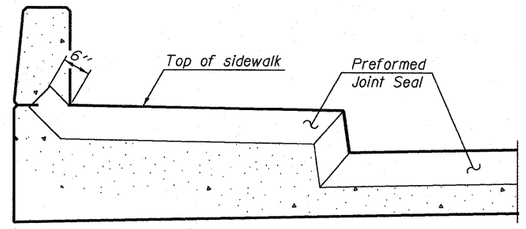
West Approach Slab shown
East Approach Slab opposite hand

* Tilt #9 b_{11} (E) bars as required to maintain clearance.



FLEXIBLE PAVEMENT

DETAIL A



VIEW F-F

Angle Preformed Joint Seal at 45°

Notes:

1. Work this sheet with sheet S13.
2. For Sections C-C & D-D, Parapet Elevation, Bar Bending diagrams and Bill of Material see sheet S13.
3. a_{10} (E) and a_{11} (E) bar spacings measured along ℄ Rdwy.
4. For drainage plan and detail, see sheet S28.

FILE NAME = ...\0162121-012-ApprSlab.dgn	DESIGNED EV	REVISED -	
	DRAWN JCP	REVISED -	
PLOT TIME = 12:42:29 PM	CHECKED PC	REVISED -	
PLOT DATE = 6/30/2011	DATE 07 01 2011	REVISED -	

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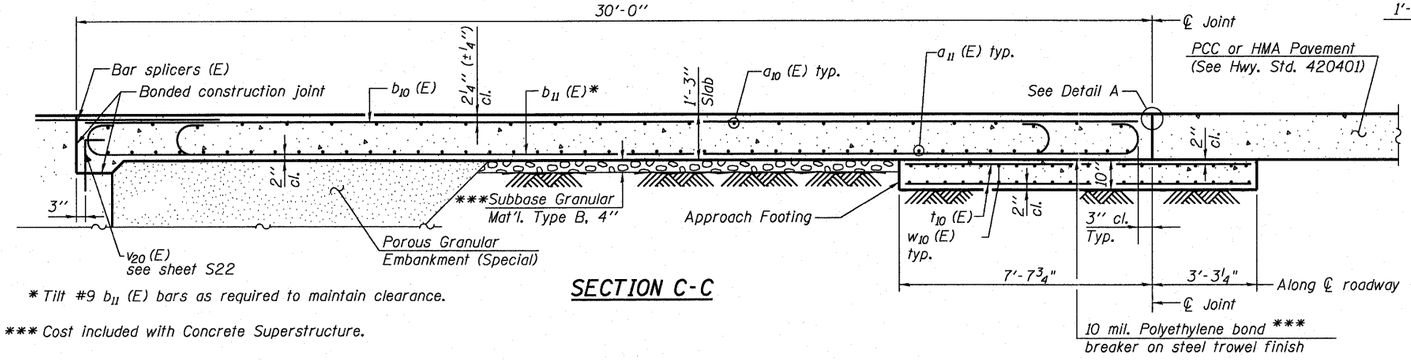
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB
STRUCTURE NO. 016-2121
SHEET NO. S12 OF S29 SHEETS

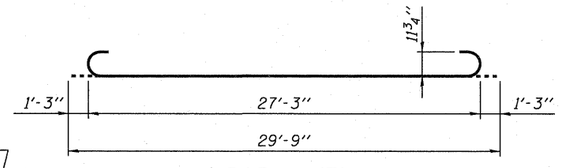
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	27
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



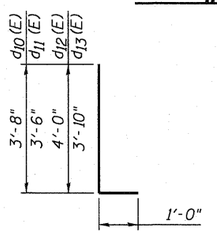
* Tilt #9 b_{11} (E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

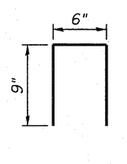
SECTION C-C



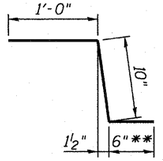
BAR b_{11} (E)



BARS d_{10} (E), d_{11} (E), d_{12}(E) AND d_{13}(E)



BAR d_2(E)

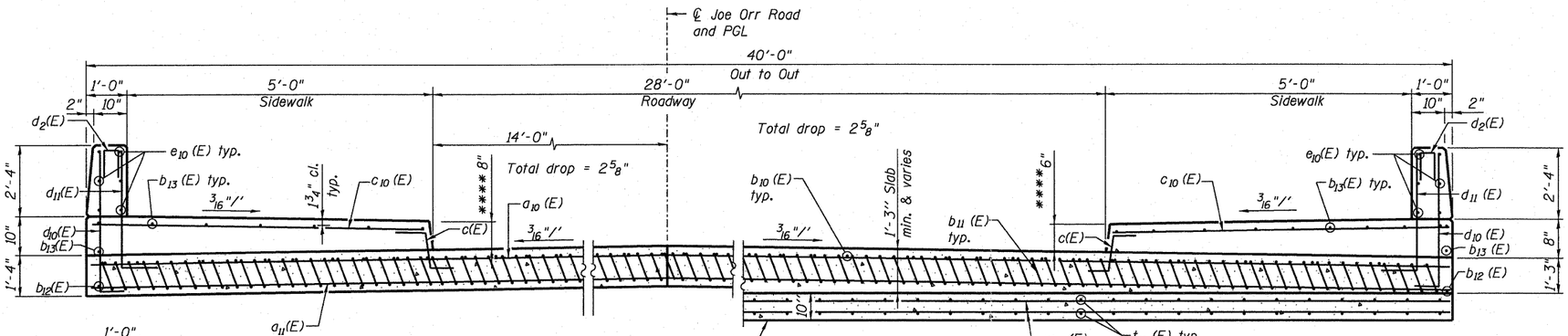


BAR c(E)

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{10} (E)	50	#4	43' - 5"	
a_{11} (E)	92	#5	43' - 5"	
b_{10} (E)	66	#4	29' - 8"	
b_{11} (E)	194	#9	29' - 9"	
b_{12} (E)	4	#9	29' - 8"	
b_{13} (E)	32	#5	29' - 8"	
c(E)	124	#5	2' - 4"	
c_{10}(E)	124	#5	6' - 3"	
d_2(E)	32	#4	2' - 0"	
d_{10} (E)	112	#4	4' - 8"	
d_{11} (E)	112	#6	4' - 6"	
d_{12} (E)	12	#4	5' - 0"	
d_{13} (E)	12	#6	4' - 10"	
e_{10} (E)	48	#4	15' - 3"	
e_{11} (E)	8	#4	2' - 3"	
t_{10}(E)	164	#4	10' - 8"	
w_{10} (E)	80	#5	43' - 5"	
Concrete Structures			Cu. Yd.	27.0
Concrete Superstructure			Cu. Yd.	142.5
Bridge Deck Grooving			Sq. Yd.	174
Protective Coat			Sq. Yd.	305
Reinforcement Bars, Epoxy Coated			Pound	35,630

** In lieu of bottom leg, c(E) bars may be cored and set according to Article 509.06 of Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of cored hole shall not exceed 6".

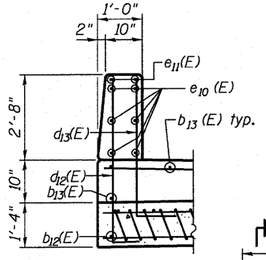


SECTION D-D

(See Plan for dimensions not shown)

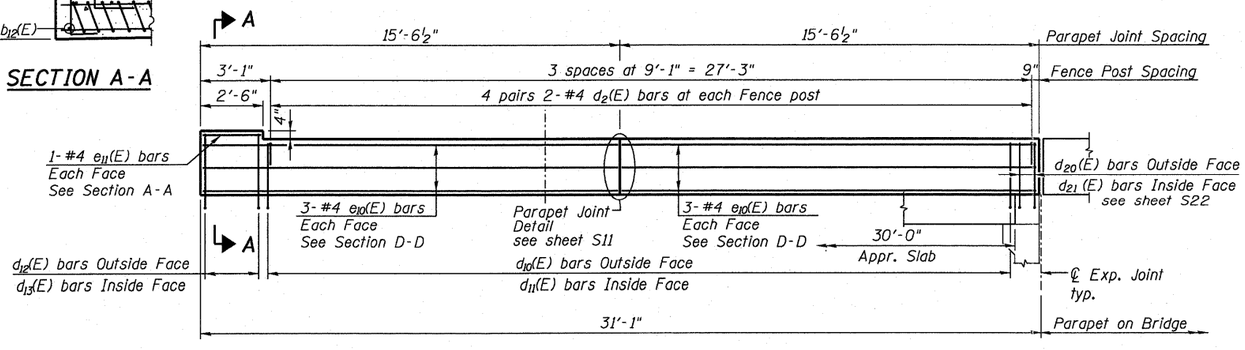
AT APPROACH FOOTING

**** Varies from 8" at Bridge to 6" at End of Approach Slabs



NEAR ABUTMENT

SECTION A-A



PARAPET ELEVATION

(Inside Face of NW Parapet Shown)

Notes:

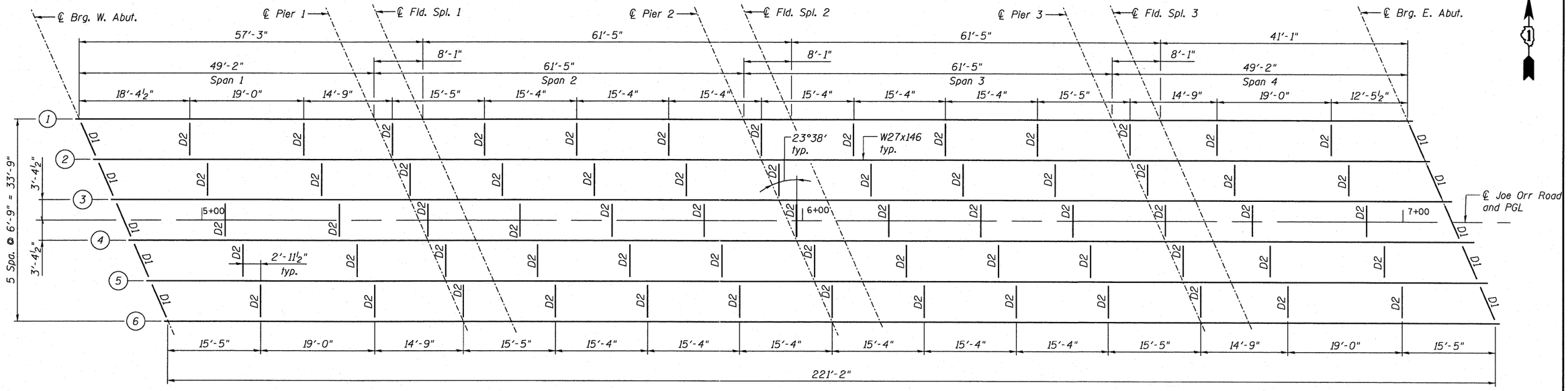
1. For Detail A, see sheet S12.
2. Approach slab, sidewalk and parapet concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
6. Cost of excavation for approach footing included with Concrete Structures.
7. For Porous Granular Embankment (Special) and drainage treatment details, see sheet S24.
8. For Bridge Fence Railing, see sheet S20.
9. For bar splicer details, see sheet S27.
10. West Approach Slab details shown. East Approach Slab details similar.

FILE NAME = ...\0162121-013-ApprSlabDetails.dgn	DESIGNED EV	REVISED -	EPSTEIN 600 WEST FULTON STREET CHICAGO, ILLINOIS 60661-1259 TEL 312 454 9100 FAX 312 558 1217 WEB www.epsteinglobal.com
PLOT TIME = 2:55:46 PM	DRAWN JCP	REVISED -	
PLOT DATE = 8/9/2011	CHECKED PC	REVISED -	
	DATE 08 09 2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
STRUCTURE NO. 016-2121
SHEET NO. S13 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	28
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		



FRAMING PLAN

INTERIOR GIRDER MOMENT TABLE					
		0.4 Span 1 or 0.6 Span 4	0.5 Span 2 or Span 3	Pier 1 or Pier 3	Pier 2
I_s	(in^4)	5630	5630	5630	5630
$I_c(n)$	(in^4)	14,777	14,777	-	-
$I_c(3n)$	(in^4)	10,690	10,690	-	-
S_s	(in^3)	411	411	411	411
$S_c(n)$	(in^3)	591.2	591.2	-	-
$S_c(3n)$	(in^3)	532.9	532.9	-	-
Z	(in^3)	-	-	461	461
w_ℓ	(k/')	0.84	0.84	1.36	1.36
M_{ℓ}	('k)	141.5	136.4	382.8	405.6
sw_ℓ	(k/')	0.516	0.516	-	-
M_{sw_ℓ}	('k)	99.4	110.2	-	-
M_L	('k)	326.7	351.4	194.9	214.2
M_{IM}	('k)	93.8	94.3	54.1	57.5
$\frac{5}{3}[M_L + I]$	('k)	700.8	742.8	415.0	452.8
M_a	('k)	1,224.3	1,286.3	1,037.1	1,116.0
* M_u	('k)	2,678.8	2,679.3	1,905.6	1,905.6
f_s w_ℓ non-comp	(ksi)	4.17	4.02	7.56	7.80
f_s w_ℓ (comp)	(ksi)	2.24	2.48	3.71	4.15
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	14.22	15.08	12.22	13.34
f_s (Overload)	(ksi)	20.63	21.58	23.5	25.28
** f_s (Total)	(ksi)	-	-	-	-
VR	(k)	48.78	39.07	-	-

* Compact section
** Braced non-compact and partially braced section

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Z: Plastic Section Modulus of the steel section in non-composite areas ($in.^3$).

w_ℓ: Un-factored non-composite dead load (kips/ft.).

M_{w_ℓ}: Un-factored moment due to non-composite dead load (kip-ft.).

sw_ℓ: Un-factored long-term composite (superimposed) dead load (kips/ft.)

M_{sw_ℓ}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

M_I: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).
$1.3\ [\ M_{w_\ell} + M_{sw_\ell} + \frac{5}{3}(M_L + M_I)]$

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M_{w_\ell} + M_{sw_\ell} + \frac{5}{3}(M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M_{w_\ell} + M_{sw_\ell} + \frac{5}{3}(M_L + M_I)]$

VR: Maximum L + impact shear range within the composite portion of the span for stud shear connector design (kips).

INTERIOR GIRDER REACTION TABLE				
		Abut.	Piers 1 & 3	Pier 2
R_{w_ℓ}	(k)	25.6	82.6	84.2
R_L	(k)	35	41.5	43.0
R_I	(k)	10.05	11.51	11.53
R_{Total}	(k)	70.6	135.6	138.7

Notes:

1. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
2. For Diaphragm Details see sheet S15.
3. For Beam and Splice Details see sheet S16.

FILE NAME = ...\0162121-014-FramingPlan.dgn	DESIGNED EV	REVISED -
PLOT TIME = 2:56:10 PM	DRAWN JCP	REVISED -
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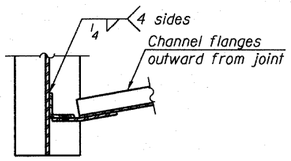
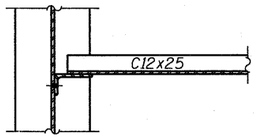
FRAMING PLAN
STRUCTURE NO. 016-2121
SHEET NO. S14 OF S29 SHEETS

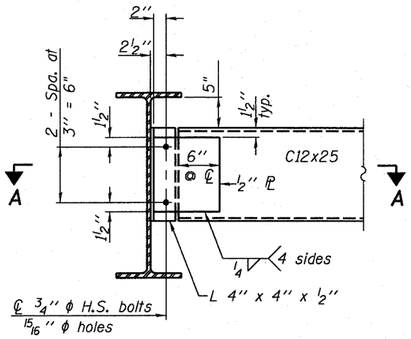
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	29
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



SECTION A-A



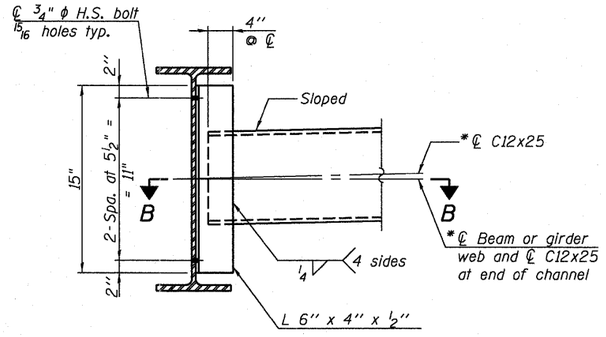
SECTION B-B



END DIAPHRAGM D1

10 Required

Note:
Two hardened washers required for each set of oversized holes.



DIAPHRAGM D2

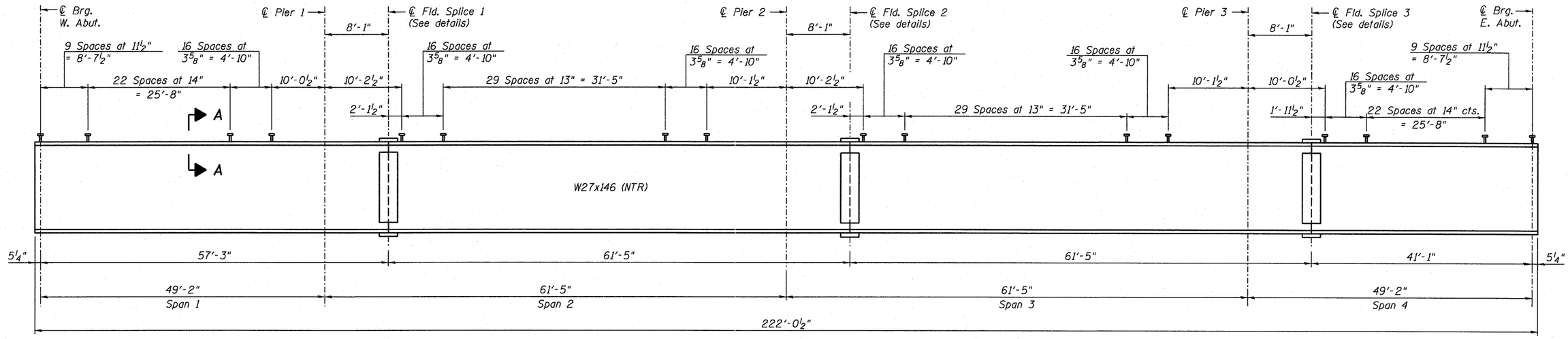
65 Required

*Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.

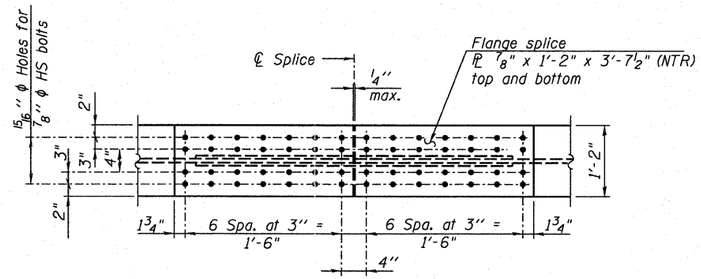
Notes:

1. See Sheet S14 for diaphragm locations.
2. H.S. bolts for diaphragms shall be AASHTO M164/ASTM A325 H.S. bolts Type 1, mechanically galvanized bolts. Bolts 3/4 in. ϕ, holes 15/16 in. ϕ, unless otherwise noted
3. Two hardened washers required for each set of oversized holes..
4. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

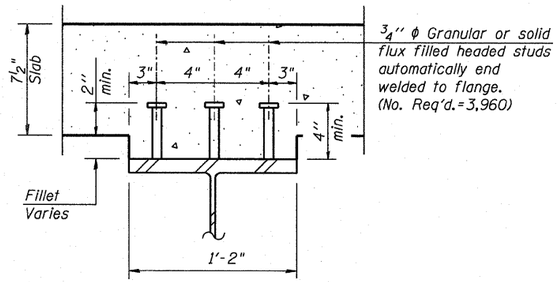
FILE NAME = ...\0162121-015-DiaphragmDetails.dgn	DESIGNED EV	REVISED -	EPSTEIN 600 WEST FULTON STREET CHICAGO, ILLINOIS 60661-1259 TEL 312 454 9100 FAX 312 609 1217 WEB www.epsteinglobal.com	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DIAPHRAGM DETAILS STRUCTURE NO. 016-2121	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT TIME = 5:28:31 PM	DRAWN JCP	REVISED -				332	0101.1 BR-3	COOK	60	30
PLOT DATE = 6/29/2011	CHECKED PC	REVISED -			SHEET NO. S15 OF S29 SHEETS			CONTRACT NO. 62421		
	DATE 07 01 2011	REVISED -						ILLINOIS FED. AID PROJECT		



TYPICAL BEAM ELEVATION



VIEW B-B

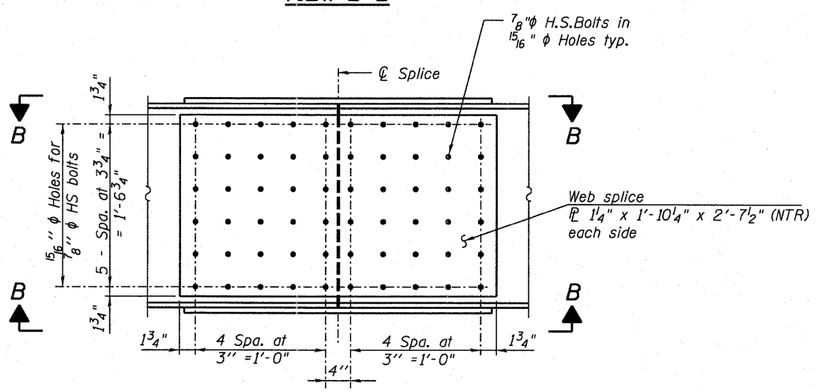


SECTION A-A

TOP OF BEAM ELEVATIONS

(For Fabrication only)

	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Brg. Pier 2	℄ Splice 2	℄ Brg. Pier 3	℄ Splice 3	℄ Brg. E. Abut.
Beam 1	650.28	650.88	650.97	651.22	651.25	651.01	650.97	650.55
Beam 2	650.44	651.01	651.10	651.33	651.35	651.10	651.05	650.61
Beam 3	650.59	651.15	651.23	651.43	651.46	651.18	651.13	650.67
Beam 4	650.64	651.17	651.25	651.46	651.45	651.15	651.10	650.62
Beam 5	650.58	651.09	651.17	651.33	651.34	651.02	650.96	650.47
Beam 6	650.52	651.01	651.09	651.22	651.23	650.88	650.82	650.31



TYPICAL SPLICE ELEVATION

SPLICE DETAIL

(18 Required)

Notes:

1. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
2. AASHTO M270 Grade 50 steel shall be used for all wide flange beams and splice plates.

BILL OF MATERIALS

Item	Unit	Total
Stud Shear Connectors	Each	3,960

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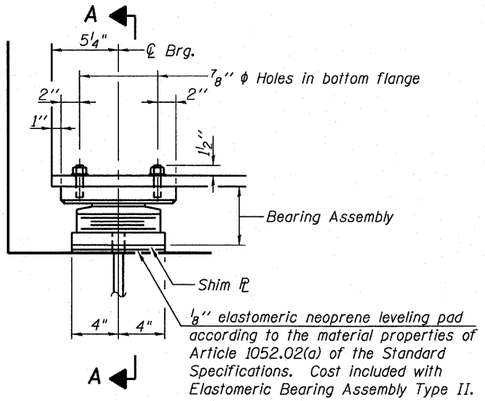
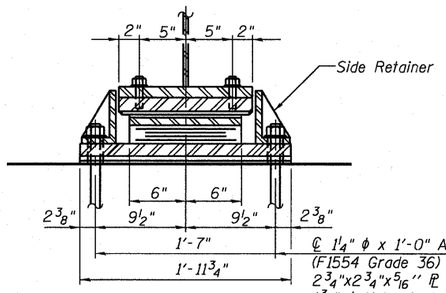
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM DETAILS
STRUCTURE NO. 016-2121
SHEET NO. S16 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	31
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		



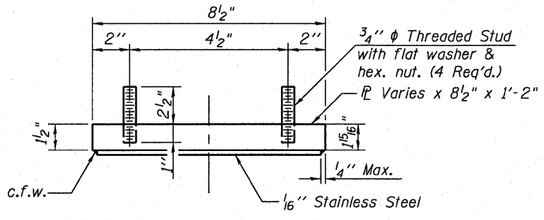
ELEVATION AT ABUT.



SECTION A-A

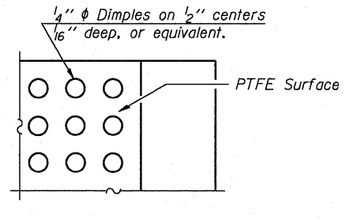
TYPE II ELASTOMERIC EXP. BRG.

(at Abutments)

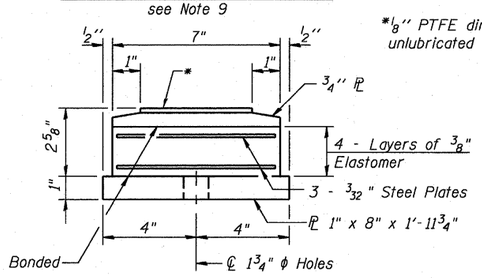


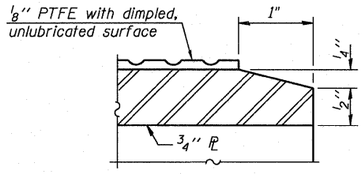
TOP BEARING ASSEMBLY

see Note 9



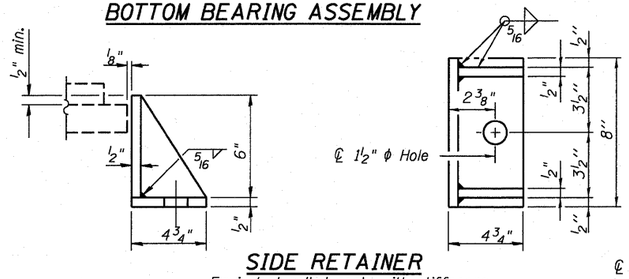
PLAN-PTFE SURFACE





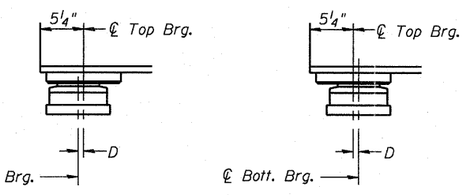
SECTION THRU PTFE

BOTTOM BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F.

(Move bott. brg. away from fixed brg.)

ABOVE 50°F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

Notes:

1. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
2. Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
3. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
4. Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
5. The ⅛" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
6. Bonding of ⅛" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
7. Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
8. The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
9. For Elastomeric Bearing on Abutments the orientation of the Beveled Top plate to be installed on the bottom flange of the beams shall be as follows:
   a. West Abutment: The thinner (1½") edge of the Top Plate shall face west towards the beam end.
   b. East Abutment: The thinner (1½") edge of the Top Plate shall face east towards the beam end.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	12
Anchor Bolts, 1¼"	Each	24

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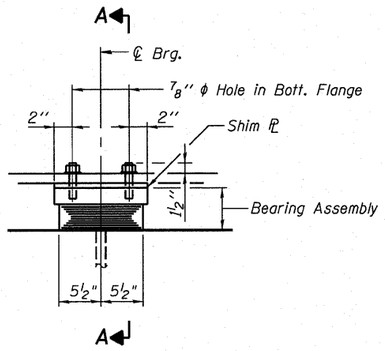
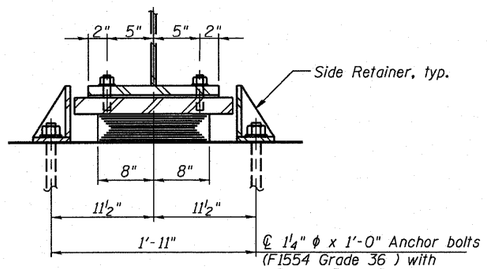
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS 1
STRUCTURE NO. 016-2121
SHEET NO. 517 OF 529 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	32
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

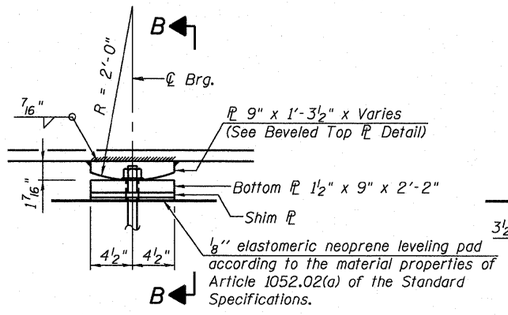


ELEVATION

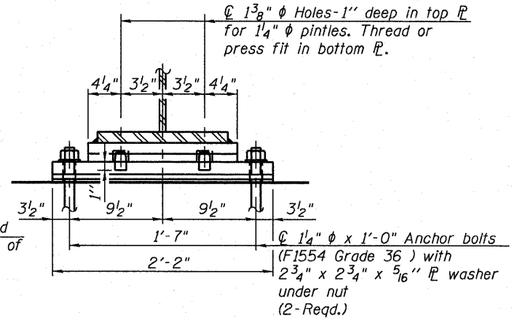


SECTION A-A

℄ 1 1/4" ϕ x 1'-0" Anchor bolts (F1554 Grade 36) with 2 3/4" x 2 3/4" x 5/16" PL washer under nut (2-Reqd.)



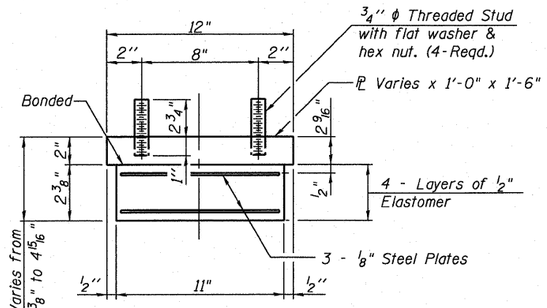
ELEVATION AT PIER



SECTION B-B

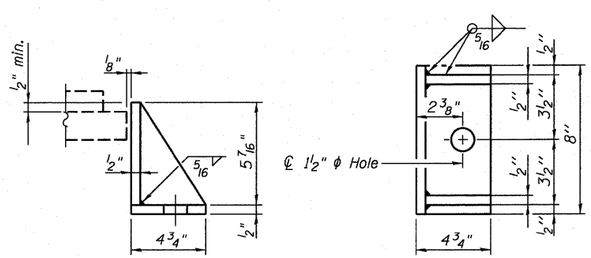
TYPE I ELASTOMERIC EXP. BRG.

(at Piers 1 and 3)



BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

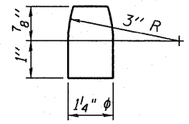


SIDE RETAINER

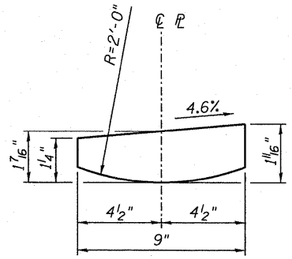
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

FIXED BEARING

(at Pier 2)



PINTLE



Upstation Beams 1 thru 3 shown
Downstation Beams 4 thru 6 opposite hand

BEVELED TOP PL DETAIL

see Note 8

Notes:

1. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

2. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

3. Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

4. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

5. Cost of installation of side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

6. The structural steel plates and side retainers of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

7. Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

8. For Fixed Bearing on Pier 2 the orientation of the Beveled Top plate to be installed on the bottom flange of the beams shall be as follows:

   a. Beam numbers 1, 2 & 3: The thicker (1 11/16") edge of the Top Plate shall face east towards the increasing station when erected on the Pier.

   b. Beam numbers 4, 5 & 6: The thicker (1 11/16") edge of the Top Plate shall face west towards decreasing station when erected on the Pier.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Anchor Bolts, 1 1/4"	Each	36

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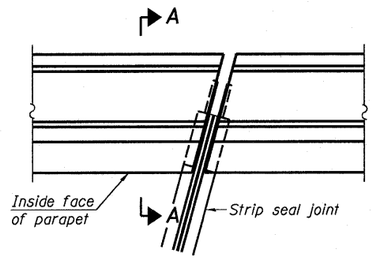
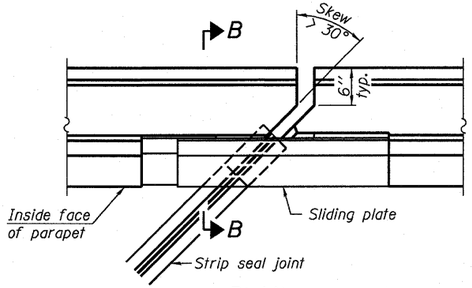
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS 2
STRUCTURE NO. 016-2121
SHEET NO. 518 OF S29 SHEETS

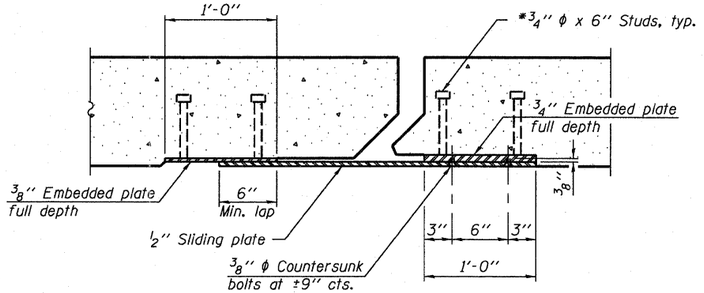
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	33
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



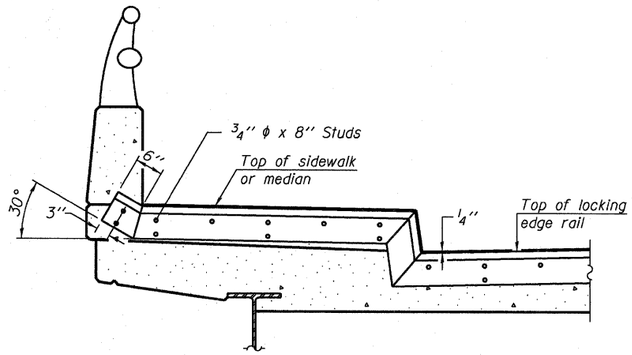
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

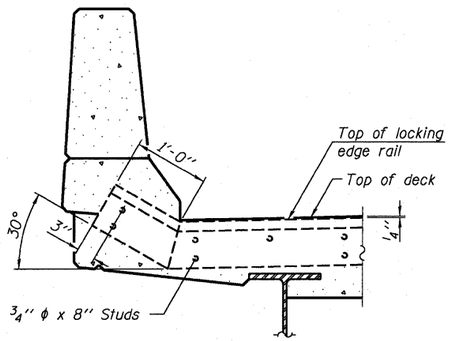


SECTION C-C

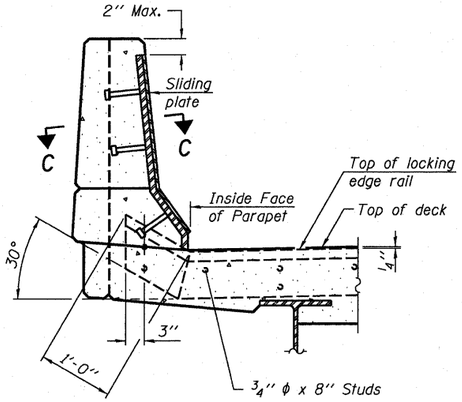


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

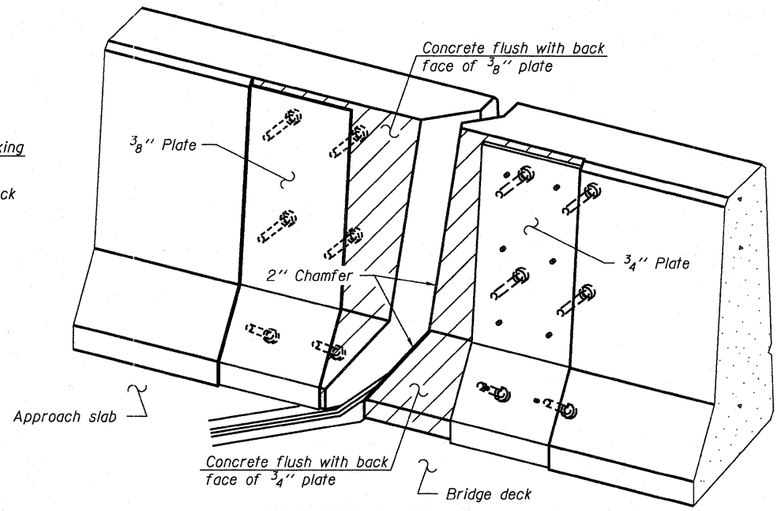
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



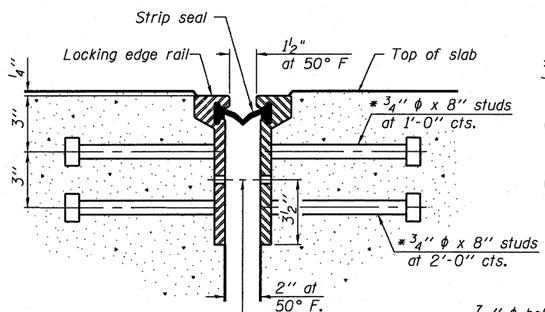
SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

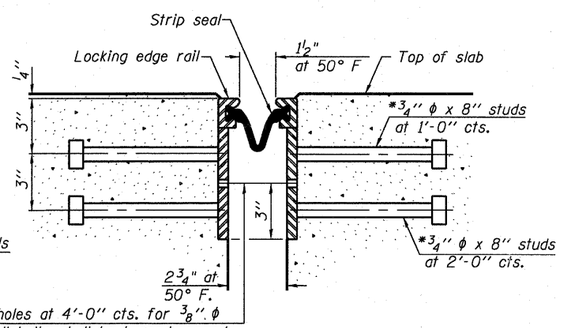
Notes:

1. The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
2. The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
3. The manufacturer's recommended installation methods shall be followed.
4. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
5. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
6. Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.
7. Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

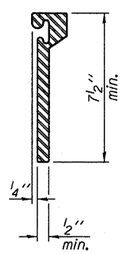
SECTION THRU ROLLED RAIL JOINT



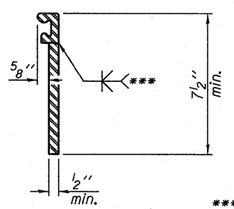
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

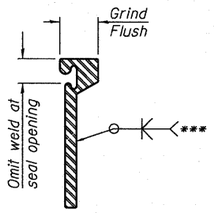
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	88.5

EJ-SSJ 7-1-10

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PLOT TIME = 5:21:47 PM	DRAWN JCP	REVISED -
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DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL DETAILS
STRUCTURE NO. 016-2121
SHEET NO. S19 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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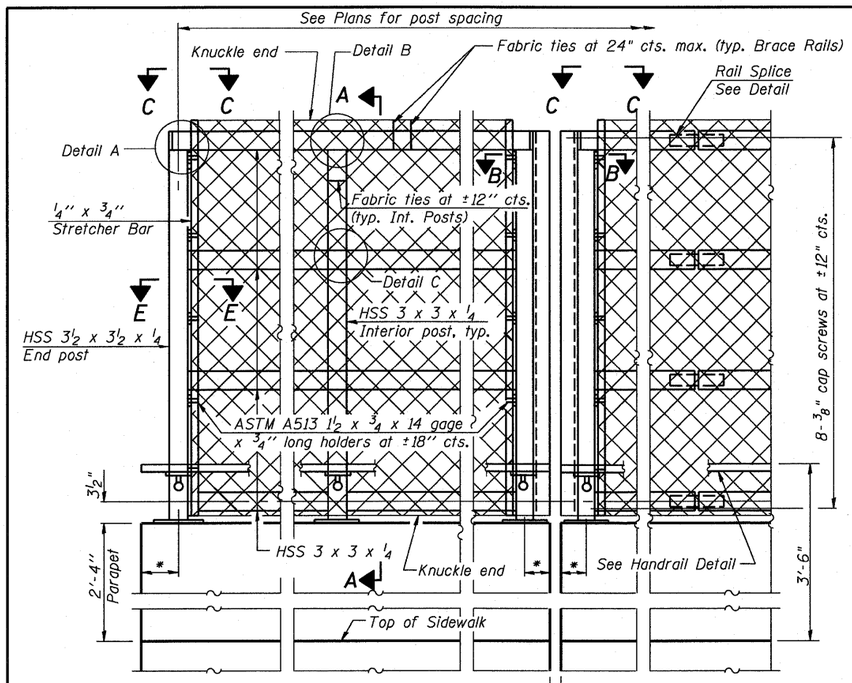
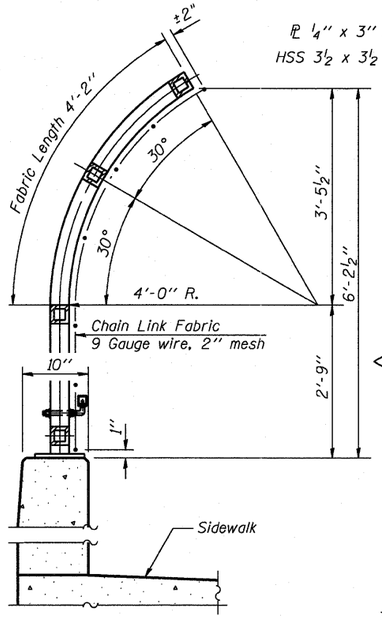
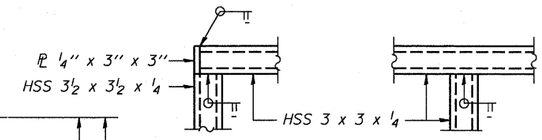
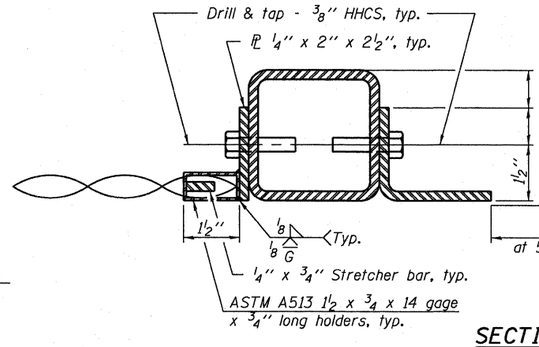
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

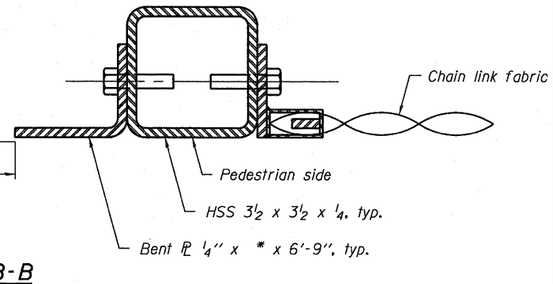


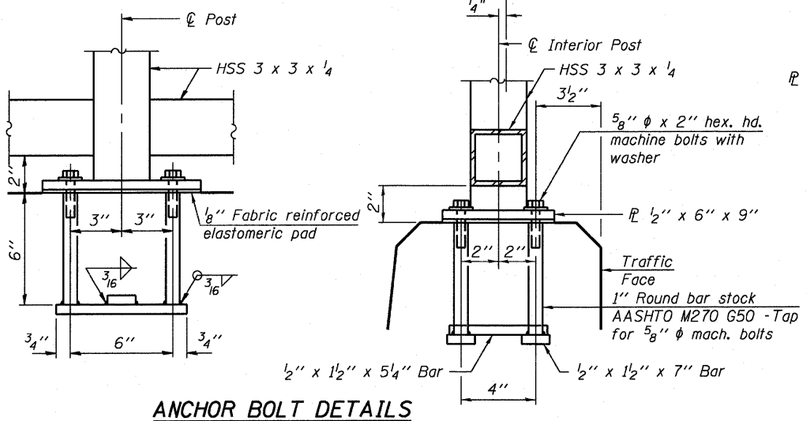




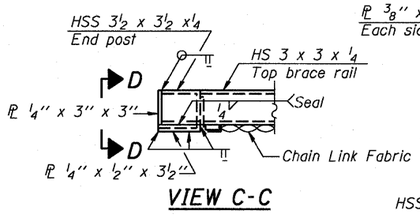
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

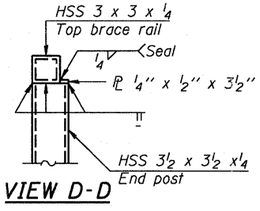


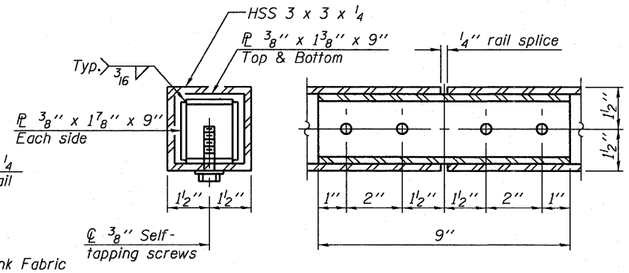


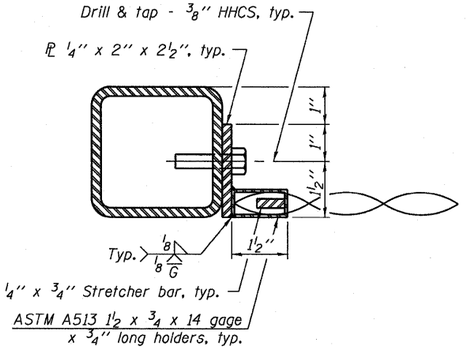


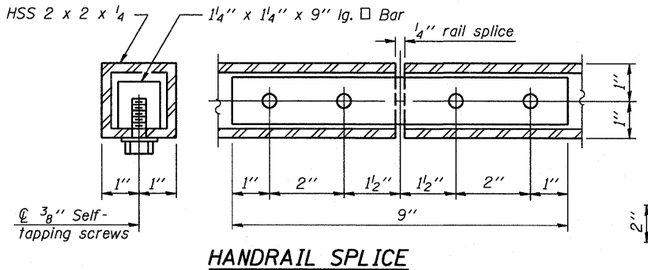
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting $\frac{5}{8}$" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

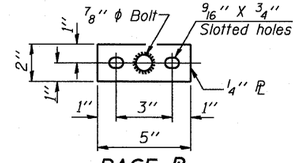






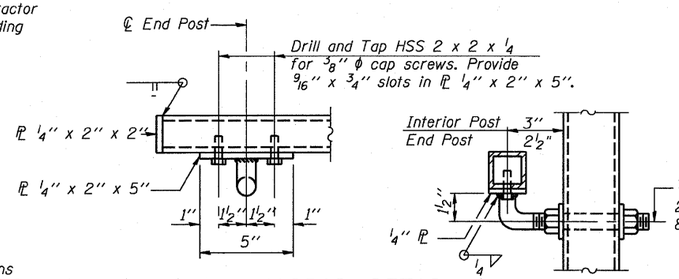


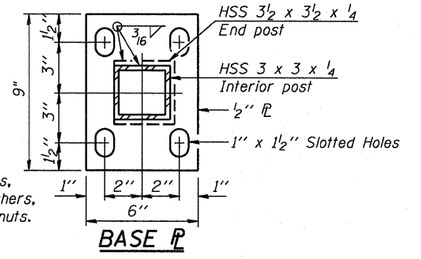




Notes:

1. For fence post spacing on deck parapet see sheet S11
2. For fence post spacing on Approach Slab parapet see sheet S13





* Variable - See Plans (10'-0" Maximum Post Spacing)

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing	Foot	549

R-28 7-1-10

FILE NAME = ...\0162121-020-BridgeFenceRailing.dgn	DESIGNED EV	REVISED -
PLOT TIME = 5:22:06 PM	DRAWN JCP	REVISED -
PLOT DATE = 6/29/2011	CHECKED PC	REVISED -
	DATE 07 01 2011	REVISED -

EPSTEIN
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FAX 312 986 1317
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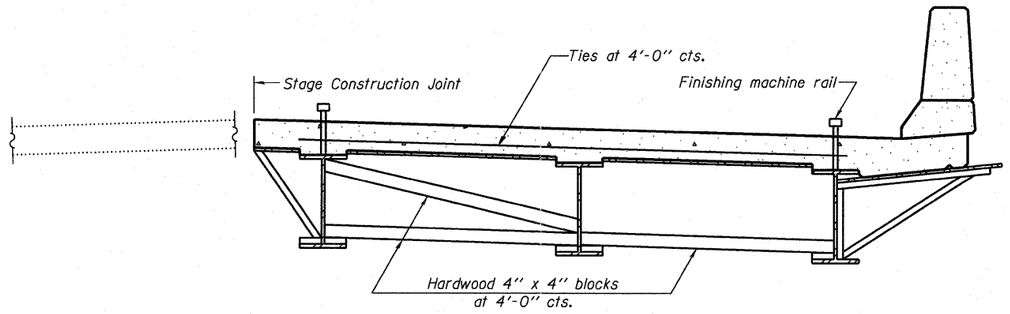
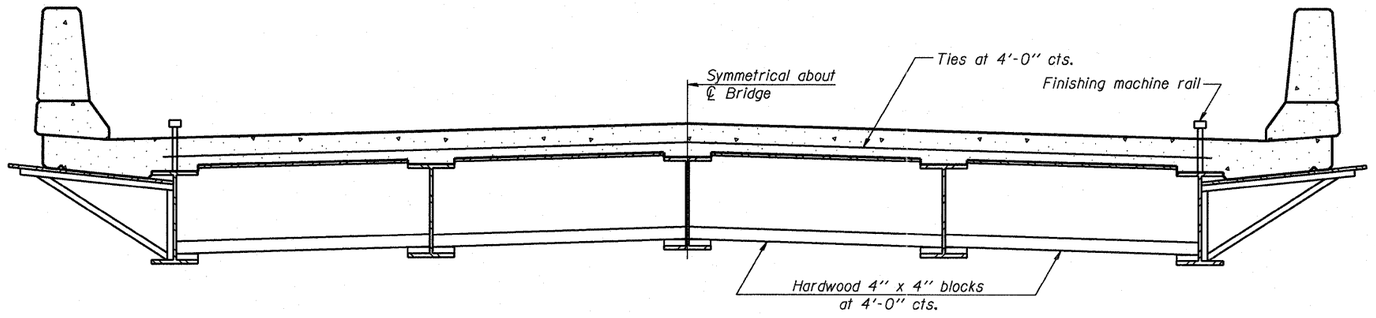
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE RAILING, PARAPET MOUNTED
STRUCTURE NO. 016-2121
SHEET NO. S20 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	35
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

Notes:

1. When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.
2. The finishing machine rails shall be placed on the top flange of the exterior beams.
3. The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
4. For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

SB-1 7-1-10

FILE NAME = ...\0162121-B21-CantileverFormingBrackets.dgn	DESIGNED EV	REVISED -
	DRAWN JCP	REVISED -
PLOT TIME = 5:22:30 PM	CHECKED PC	REVISED -
PLOT DATE = 6/29/2011	DATE 07 01 2011	REVISED -

SEPSTEIN
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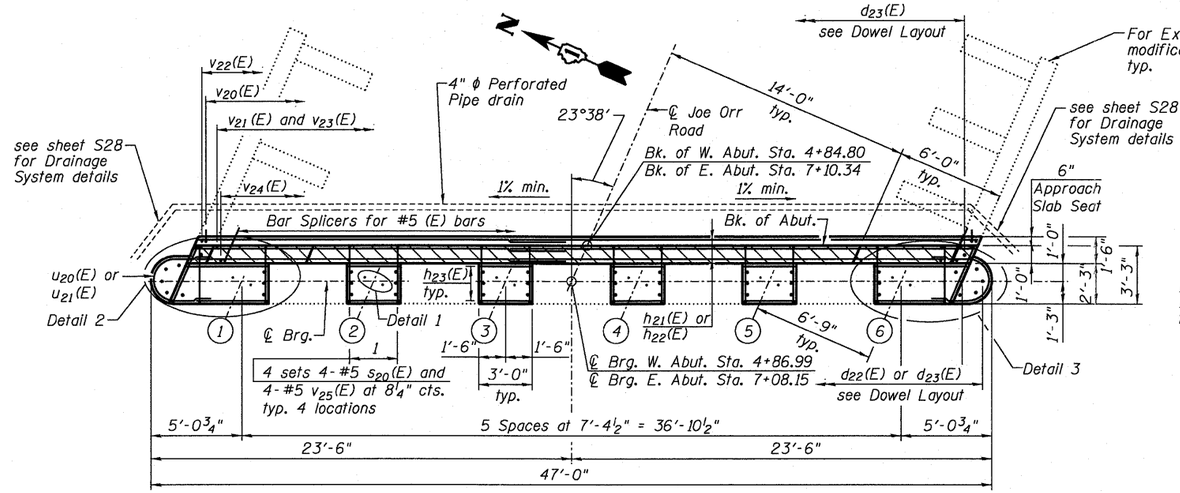
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER FORMING BRACKETS FOR SUPERSTRUCTURES WITH W27 BEAMS AND SMALLER STRUCTURE NO. 016-2121

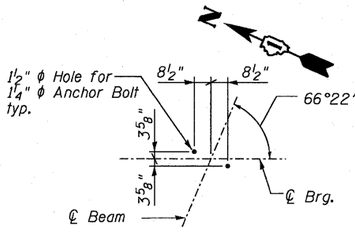
SHEET NO. S21 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	36
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



ABUTMENT PLAN

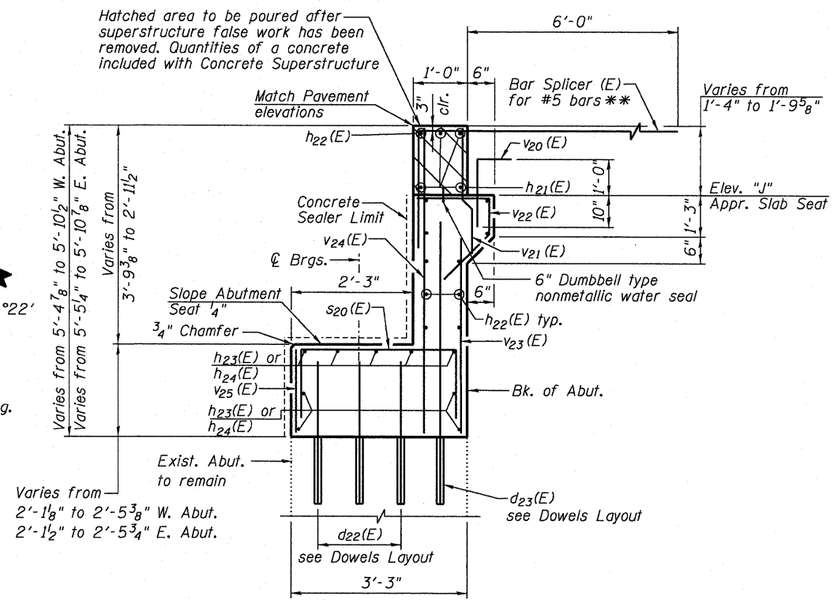
East Abutment shown
West Abutment opposite hand



DETAIL 1

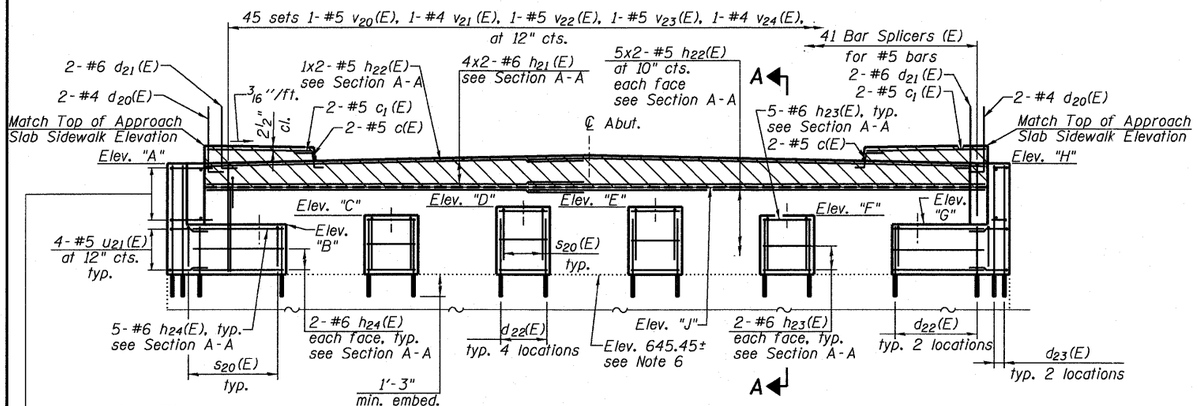
MINIMUM BAR LAP

#5 bar = 2'-10"
#6 bar = 3'-4"



* See Dowel Layout sheet S24
** Alternate with v_{23}(E) and v_{24}(E) bars. Place parallel to beams.

SECTION A-A



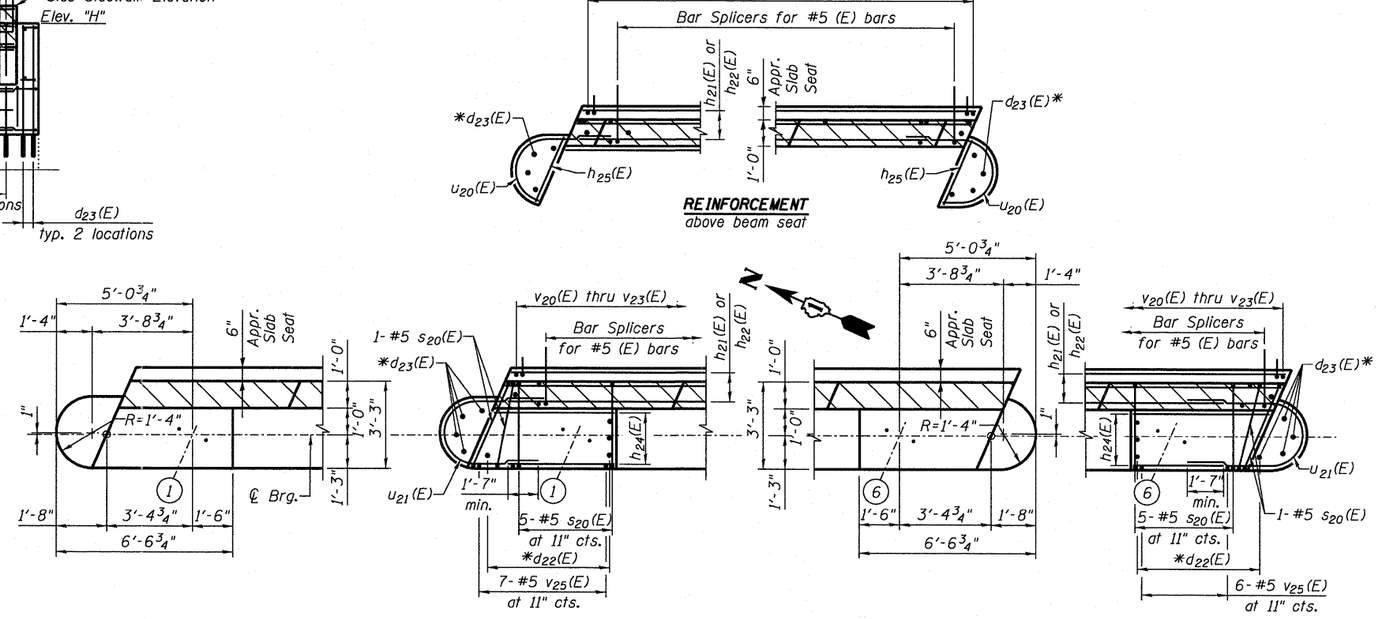
ABUTMENT ELEVATION

East Abutment looking East
West Abutment looking West

	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "E"	Elev. "F"	Elev. "G"	Elev. "H"	Elev. "J"
W. Abut.	650.86	647.54	647.70	647.85	647.90	647.84	647.78	651.15	649.52
E. Abut.	651.18	647.81	647.87	647.93	647.88	647.73	647.57	650.89	649.55

Notes:

1. Work this sheet with sheets S23 and S24.
2. For Wingwall Modification details see sheet S23.
3. For Section thru Abutment, Dowels Layout, Bar bending diagrams and Bill of Materials see sheet S24.
4. For Bearing Details see sheet S17.
5. For Bar Splicer Details see sheet S27.
6. Elevation was taken from available survey. The Contractor shall verify in field before beginning of work.



DIMENSIONS — REINFORCEMENT below beam seat

DETAIL 2

DIMENSIONS — REINFORCEMENT below beam seat

DETAIL 3

FILE NAME = ...\0162121-822-Abutment.dgn	DESIGNED EV	REVISED -	
PLOT TIME = 5:22:51 PM	DRAWN JCP	REVISED -	
PLOT DATE = 6/29/2011	CHECKED PC	REVISED -	
	DATE 07 01 2011	REVISED -	

EPSTEIN
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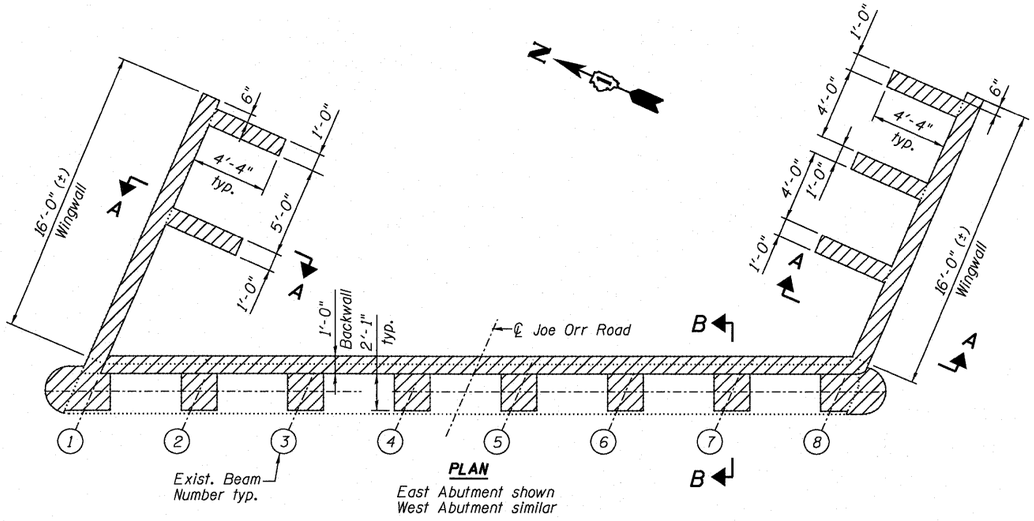
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

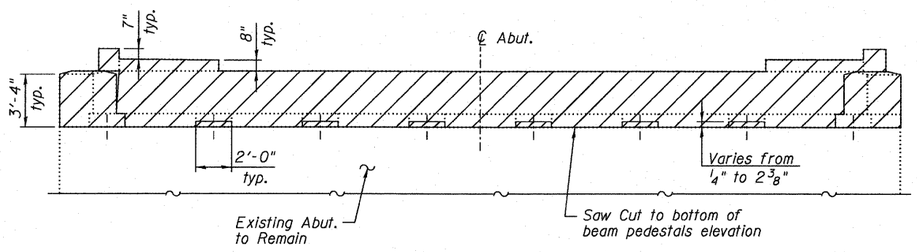
ABUTMENT MODIFICATION
STRUCTURE NO. 016-2121
SHEET NO. S22 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	37
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

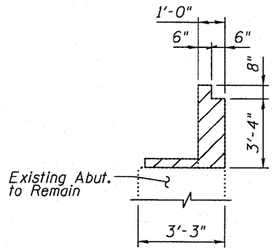


PLAN

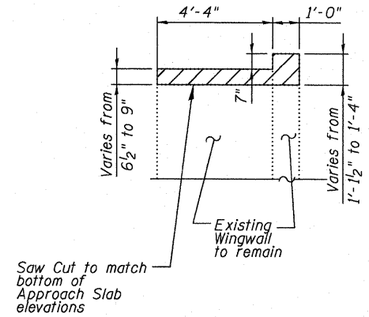
East Abutment shown
West Abutment similar



ELEVATION



SECTION B-B

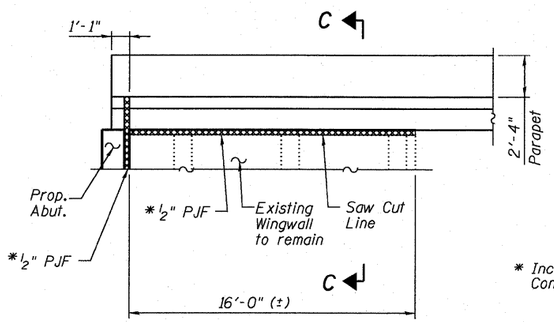


SECTION A-A

LEGEND

Concrete Removal

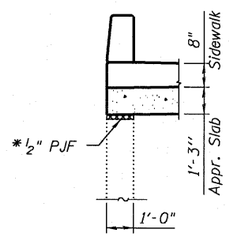
REMOVAL SKETCH



* Included in the cost of Concrete Superstructure

WINGWALL MODIFICATION

Bridge Fence Railing
not shown for clarity



SECTION C-C

Notes:

1. Work this sheet with sheets S22 and S24.
2. All dimensions of existing structure were taken from the existing plans. The Contractor shall verify in field before beginning of work.

FILE NAME = ...\0162121-823-AbutmentDetails1.dgn	DESIGNED EV	REVISED -
PLOT TIME = 2:58:25 PM	DRAWN JCP	REVISED -
PLOT DATE = 8/9/2011	CHECKED PC	REVISED -
	DATE 08 09 2011	REVISED -

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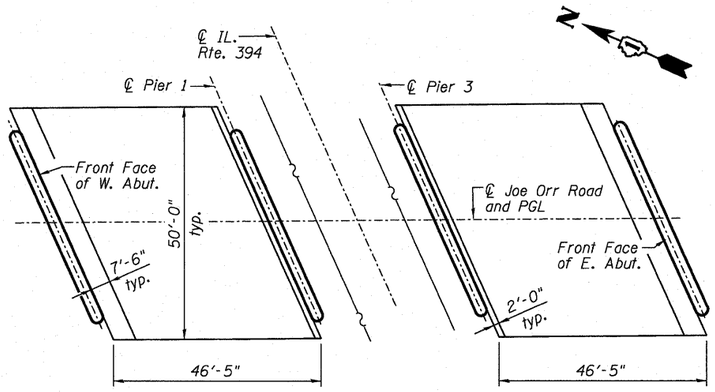
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT MODIFICATION DETAILS 1
STRUCTURE NO. 016-2121
SHEET NO. S23 OF S29 SHEETS

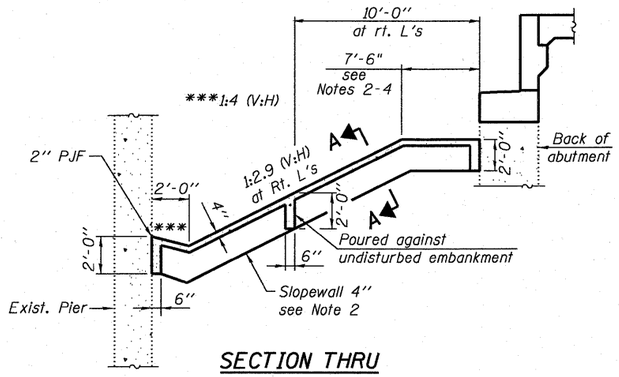
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	38
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			



SLOPE WALL PLAN

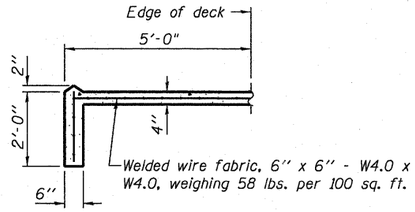
Note:

Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
Cost included with Slope Wall 4 inch.

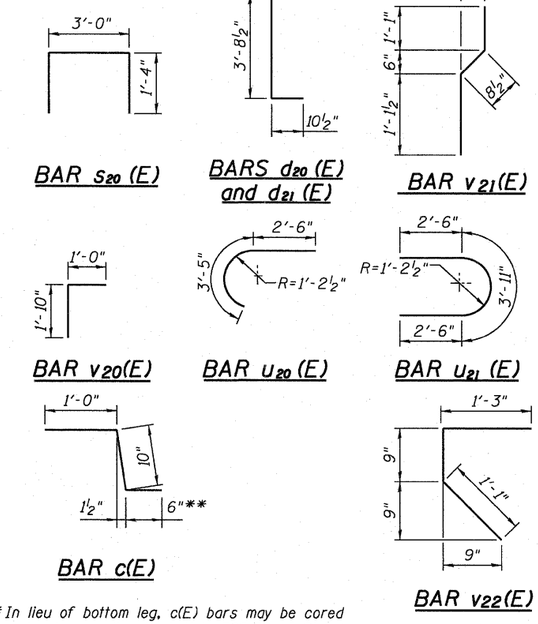


SECTION THRU CONCRETE SLOPEWALL

(Horiz. dim. ℄ Rt. L's)



SECTION A-A

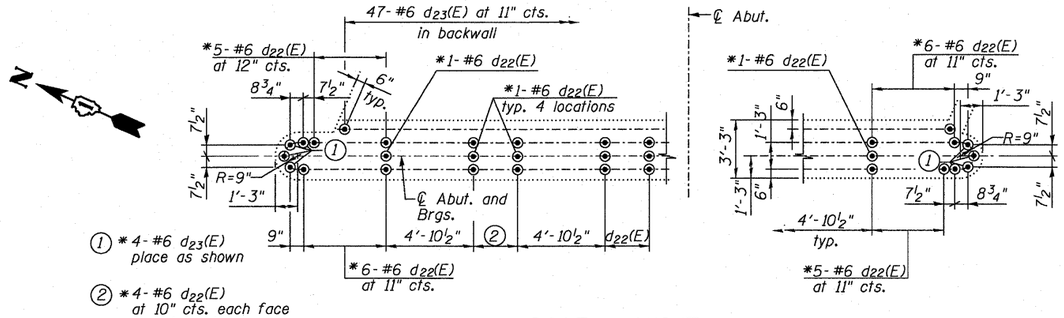


** In lieu of bottom leg, c(E) bars may be cored and set according to Article 509.06 of Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of cored hole shall not exceed 6".

BILL OF MATERIAL

for one Abutment

Bar	No.	Size	Length	Shape
c(E)	4	#5	2' - 4"	
c_1(E)	4	#5	8' - 2"	
d_{20}(E)	4	#4	4' - 7"	
d_{21}(E)	4	#6	4' - 7"	
d_{22}(E)	64	#6	2' - 6"	
d_{23}(E)	55	#6	5' - 10"	
h_{21}(E)	8	#6	23' - 6"	
h_{22}(E)	22	#5	23' - 6"	
h_{23}(E)	36	#6	2' - 9"	
h_{24}(E)	18	#6	5' - 6"	
h_{25}(E)	8	#5	2' - 7"	
s_{20}(E)	30	#5	5' - 8"	
u_{20}(E)	8	#5	5' - 11"	
u_{21}(E)	8	#5	8' - 11"	
v_{20}(E)	45	#5	2' - 10"	
v_{21}(E)	45	#4	2' - 11"	
v_{22}(E)	45	#5	3' - 1"	
v_{23}(E)	45	#5	3' - 3"	
v_{24}(E)	45	#4	4' - 7"	
v_{25}(E)	29	#5	1' - 3"	
Porous Granular Embankment, Special		Cu. Yd.		38
Concrete Removal		Cu. Yd.		7.7
Slope Wall Removal		Sq. Yd.		225
Structure Excavation		Cu. Yd.		44
Concrete Structures		Cu. Yd.		16.4
Reinforcement Bars, Epoxy Coated		Pound		2,950
Slope Wall 4 inch		Sq. Yd.		268
Concrete Sealer		Sq. Ft.		25
Geocomposite Wall Drain		Sq. Yd.		26
Pipe underdrain for structures, 4"		Foot		45



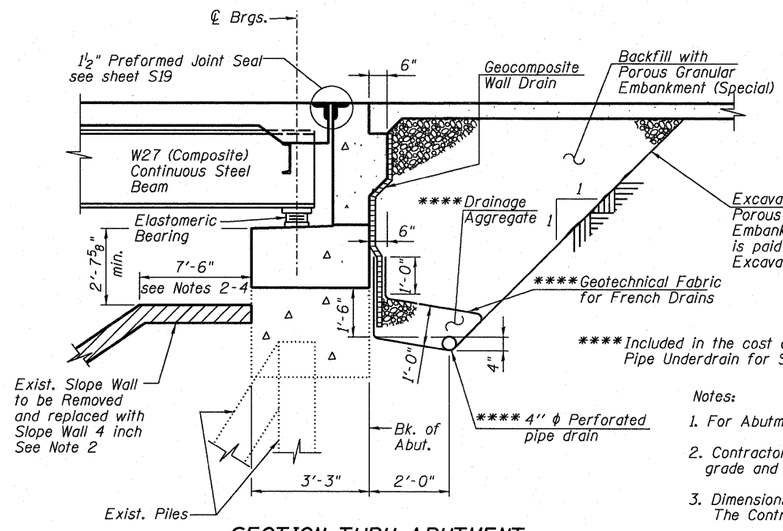
① * 4-#6 d_{23}(E) place as shown

② * 4-#6 d_{22}(E) at 10" cts. each face typ. 4 locations

DOWEL LAYOUT

Symmetrical about ℄ Abutment unless noted otherwise

* Drill and Grout Dowel Bars should comply with requirements of Section 584 of Standard Specification. Cost included with Reinforcement Bars, Epoxy Coated



SECTION THRU ABUTMENT

(Horiz. dim. ℄ Rt. L's)

Notes:

1. For Abutment Plan and Elevation see sheet S22.
2. Contractor to verify in field and match existing slope wall grade and elevation.
3. Dimensions were taken from the existing plans. The Contractor to verify in field before beginning of work.
4. All abutment berms shall be sloped ½" per ft to drain.

FILE NAME = ...\0162121-024-AbutmentDetails2.dgn	DESIGNED EV	REVISED -
	DRAWN JCP	REVISED -
PLOT TIME = 3:02:46 PM	CHECKED PC	REVISED -
PLOT DATE = 8/9/2011	DATE 08 09 2011	REVISED -

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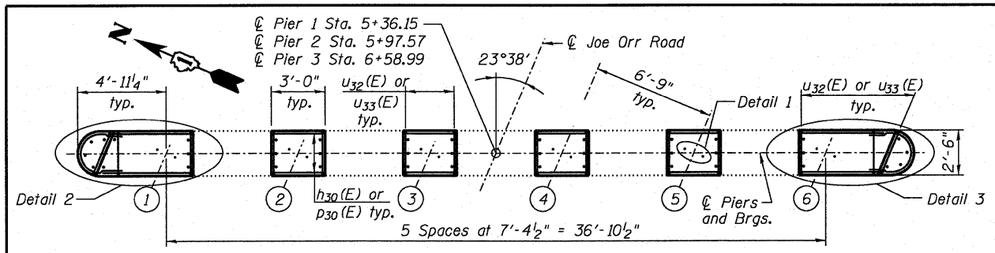
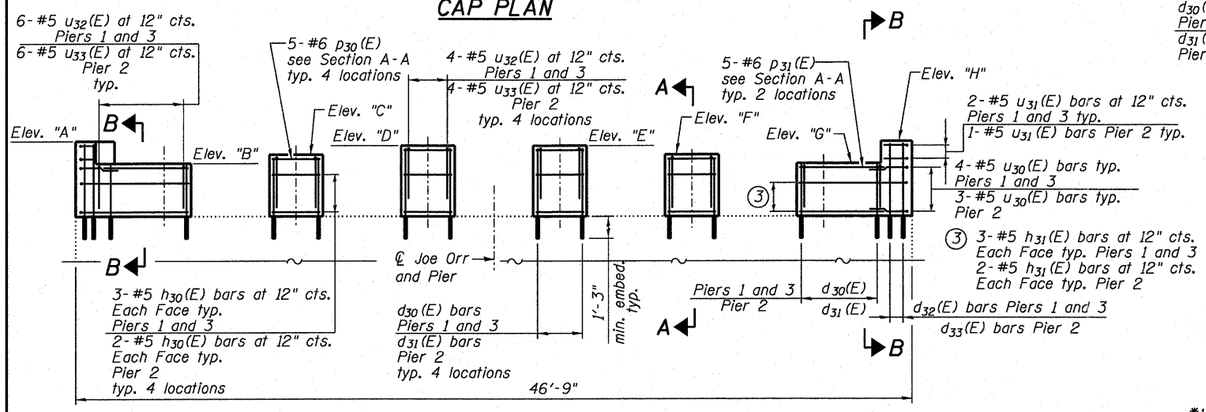
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT MODIFICATION DETAILS 2
STRUCTURE NO. 016-2121
SHEET NO. S24 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	39
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

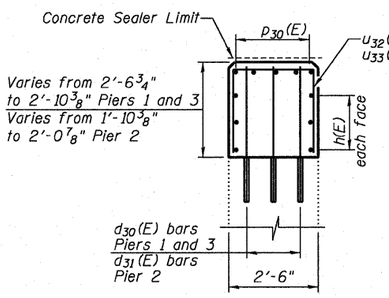


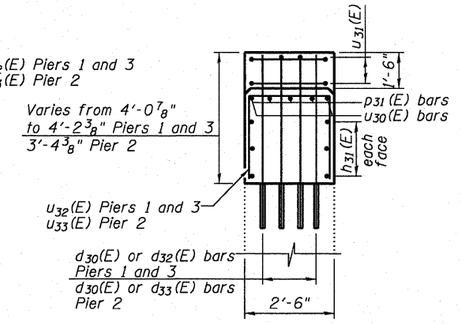
CAP PLAN



PIER ELEVATION

	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "E"	Elev. "F"	Elev. "G"	Elev. "H"
Pier 1	649.71	648.21	648.34	648.48	648.50	648.42	648.34	649.84
Pier 2	650.18	648.68	648.79	648.89	648.89	648.79	648.68	650.18
Pier 3	649.84	648.34	648.43	648.51	648.48	648.35	648.21	649.71

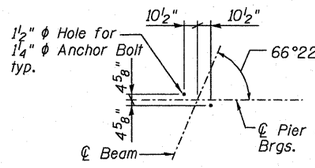




BILL OF MATERIAL

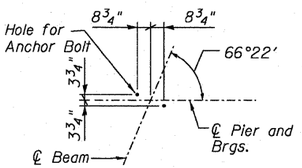
Bar	No. Pier 1	Pier 2	Pier 3	Size	Length	Shape
d_{30}(E)	64		64	#6	3' - 7"	
d_{31} (E)		64		#6	2' - 11"	
d_{32}(E)	8		8	#6	5' - 1"	
d_{33}(E)		8		#6	4' - 5"	
h_{30}(E)	24	16	24	#5	2' - 9"	
h_{31} (E)	12	8	12	#5	5' - 0"	
p_{30}(E)	20	20	20	#6	2' - 9"	
p_{31} (E)	10	10	10	#6	5' - 2"	
u_{30}(E)	8	6	8	#5	5' - 10"	
u_{31} (E)	4	2	4	#5	4' - 9"	
u_{32}(E)	28		28	#5	6' - 11"	
u_{33}(E)		28		#5	5' - 7"	
Concrete Removal					Cu. Yd.	3.7
Concrete Structures					Cu. Yd.	22.7
Reinforcement Bars, Epoxy Coated					Pound	2,730

SECTION A-A



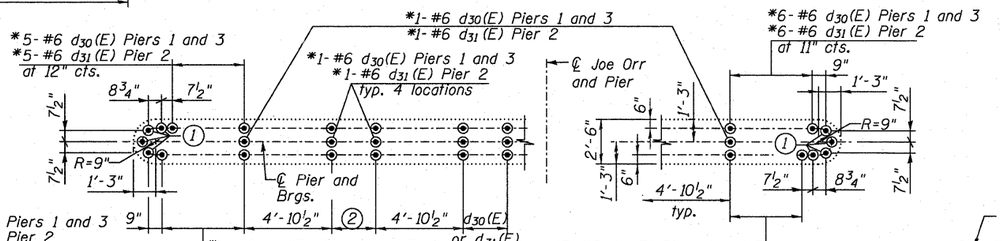
PIERS 1 AND 3

SECTION B-D



PIER 2

DETAIL 1

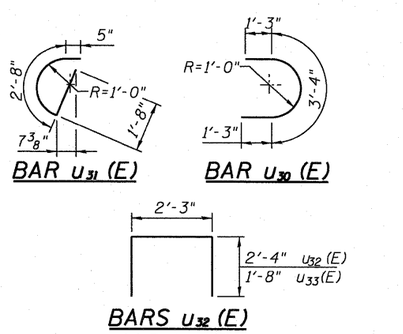


① *4-#6 d_{32}(E) Piers 1 and 3
*4-#6 d_{33}(E) Pier 2 place as shown

② *4-#6 d_{30}(E) Piers 1 and 3
*4-#6 d_{31} (E) Pier 2 at 10" cts. each face typ. 4 locations

DOWEL LAYOUT

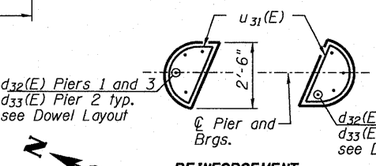
Symmetrical about ℄ Pier unless noted otherwise

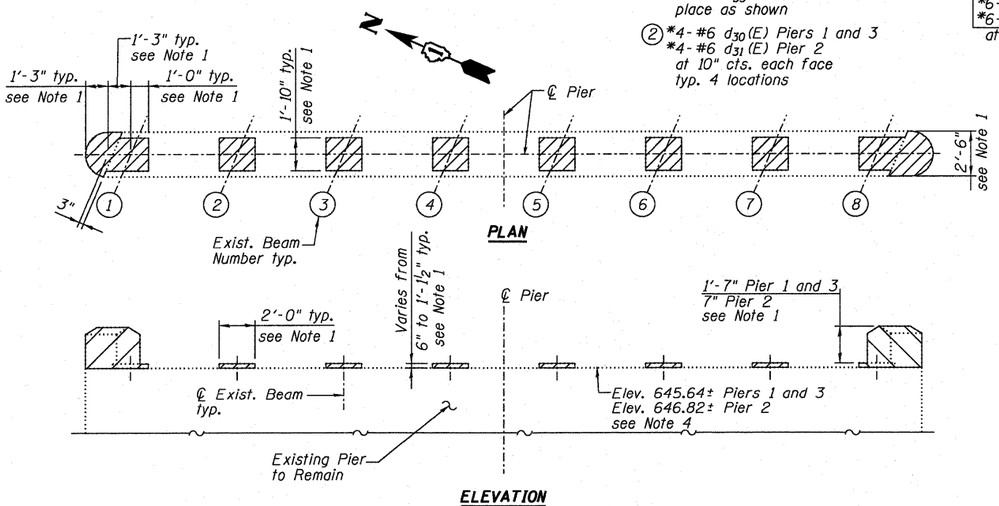


BAR u_{31} (E)

BAR u_{30} (E)

BARS u_{32} (E) AND u_{33} (E)

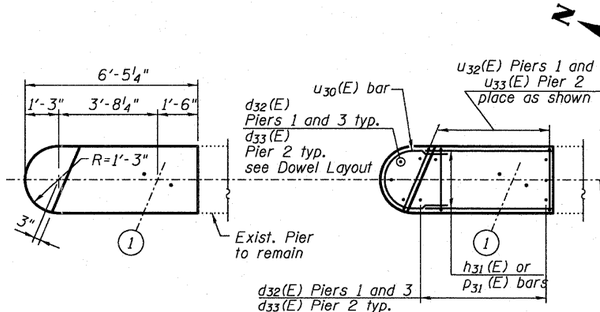




REMOVAL SKETCH

LEGEND

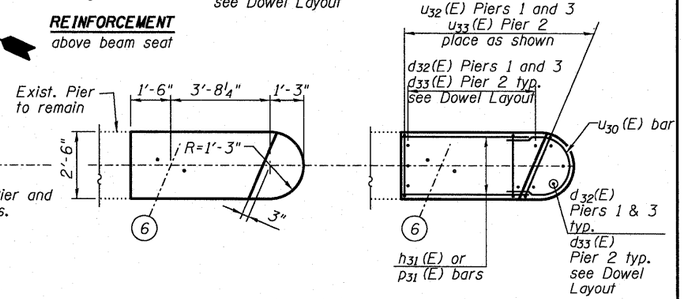
Concrete Removal



DIMENSIONS

REINFORCEMENT below beam seat

DETAIL 2



DIMENSIONS

REINFORCEMENT below beam seat

DETAIL 3

* Drill and Grout Dowel Bars should comply with requirements of Section 584 of Standard Specification. Cost included with Reinforcement Bars, Epoxy Coated

Notes:

1. Dimensions taken from existing plans. To be verified by the Contractor in the field before starting construction.
2. Space reinforcement in pedestals to miss anchor bolts.
3. For Bearing Details see sheet S18.
4. Elevation was taken from available survey. The Contractor shall verify in field before beginning of work.

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PLOT TIME = 1:36:43 PM	DRAWN JCP	REVISED -
PLOT DATE = 6/30/2011	CHECKED PC	REVISED -
	DATE 07 01 2011	REVISED -

SEPSTEIN
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER MODIFICATION DETAILS
STRUCTURE NO. 016-2121
SHEET NO. S25 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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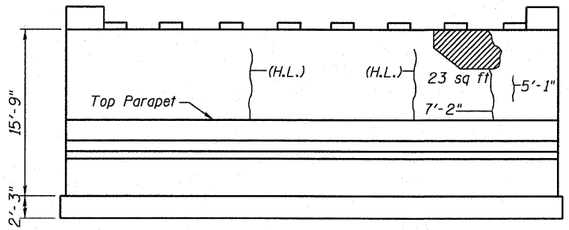
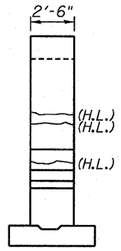
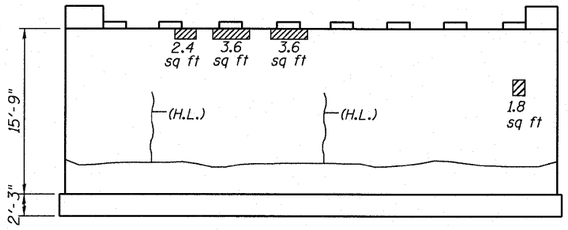
		CONTRACT NO. 62421		
ILLINOIS	FED. AID PROJECT			



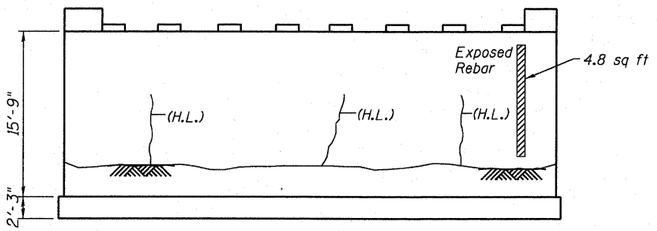
PIER 1 ELEVATION
(East Face)



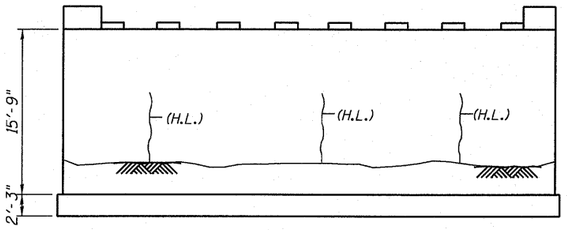
AT SOUTH END



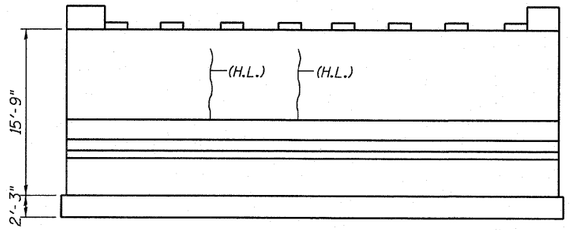
PIER 1 ELEVATION
(West Face)



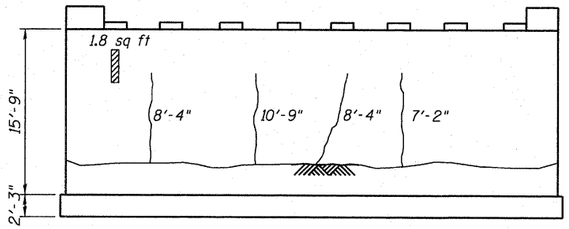
PIER 2 ELEVATION
(East Face)



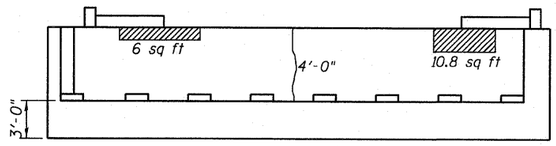
PIER 2 ELEVATION
(West Face)



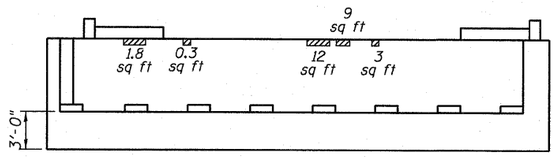
PIER 3 ELEVATION
(West Face)



PIER 3 ELEVATION
(East Face)



EAST ABUTMENT ELEVATION



WEST ABUTMENT ELEVATION

LEGEND

- Structural Repair of Concrete (depth equal to or less than 5 inches)
- 1'-0" — Epoxy Crack Injection
- (H.L.) — Hairline crack (not to be sealed)

BILL OF MATERIALS

Item	Unit	Total
Epoxy Crack Injection	Foot	61
Structural Repair of Concrete (depth equal to or less than 5 inches)	Sq Ft	101

Note

The cracks and spall areas of the existing substructure shown on this plan are for general reference only. They have been taken from the bridge condition report and they are not guaranteed. The contractor shall take all field measurements of the cracks and spall areas necessary to assure proper repair for the substructure and shall assure full responsibility for the repair work.

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	DRAWN JCP	REVISED -
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PLOT DATE = 6/30/2011	DATE 07 01 2011	REVISED -

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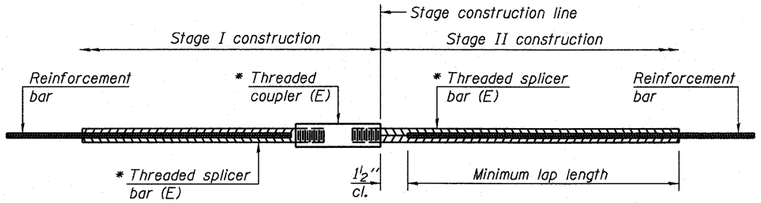
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING SUBSTRUCTURE REPAIRS
STRUCTURE NO. 016-2121
SHEET NO. S26 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	41
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

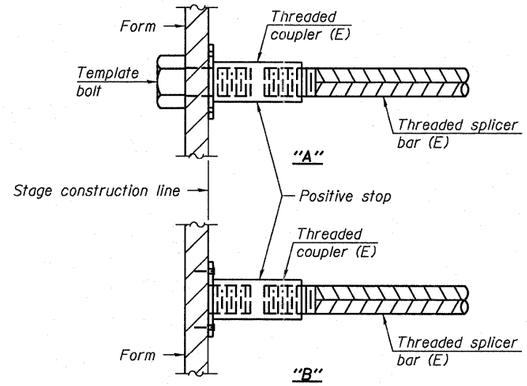
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

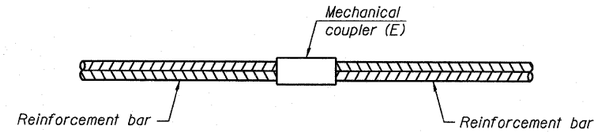
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



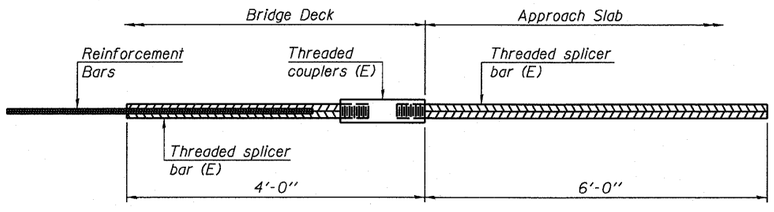
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



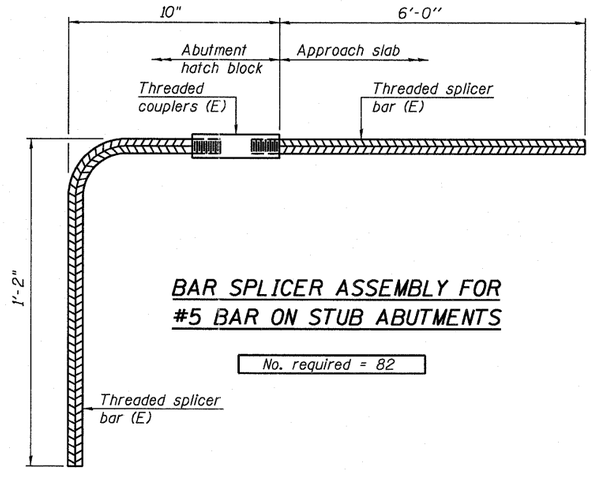
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 82

Notes:

1. Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
2. All reinforcement shall be lapped and tied to the splicer bars.
3. Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
4. See special provision for Mechanical Splicers.
5. See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 7-1-10

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	DRAWN JCP	REVISED -
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PLOT DATE = 6/29/2011	DATE 07 01 2011	REVISED -

EPSTEIN
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-2121
SHEET NO. S27 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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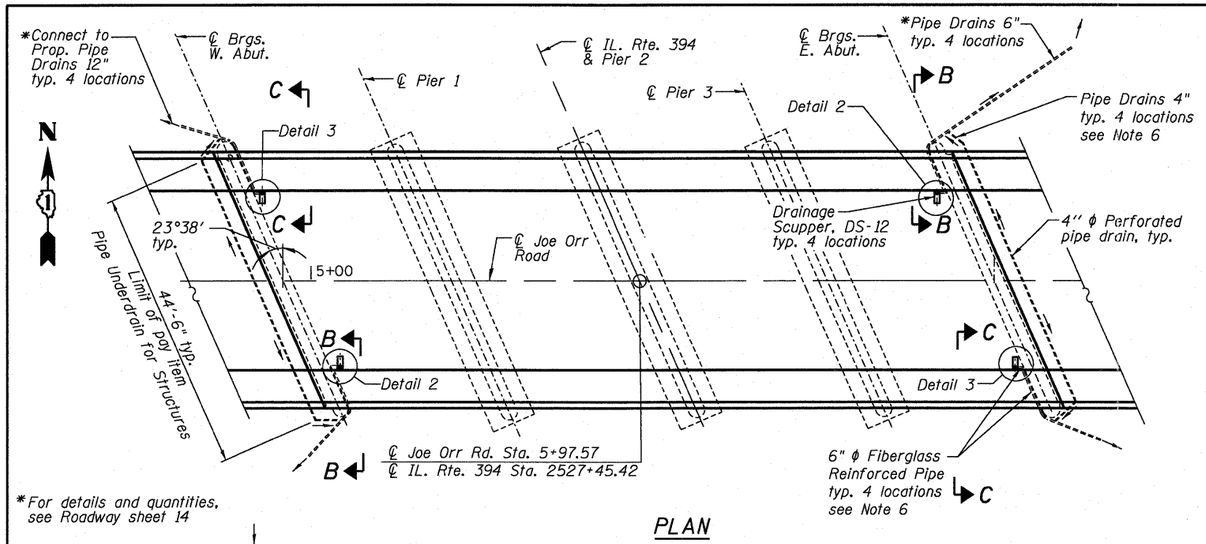
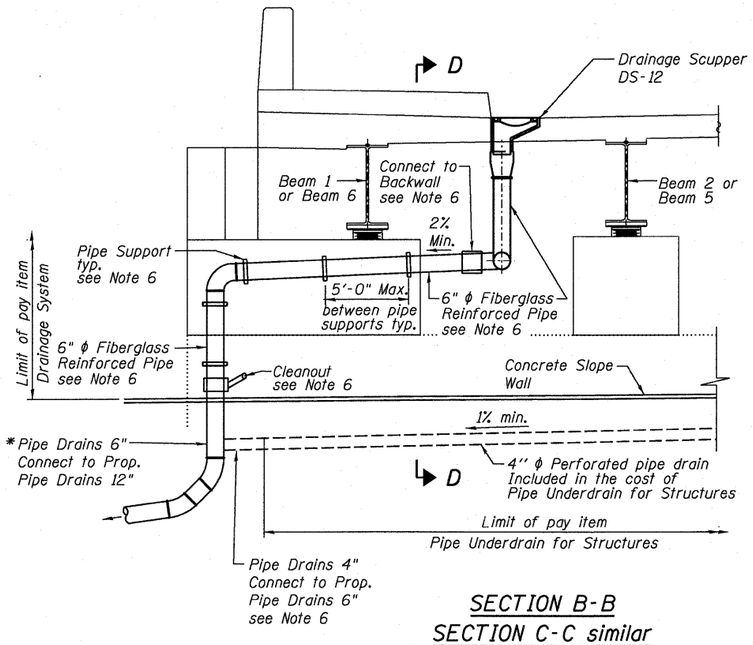
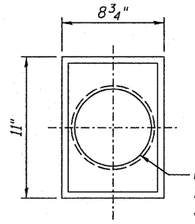
		CONTRACT NO. 62421		
	ILLINOIS	FED. AID PROJECT		



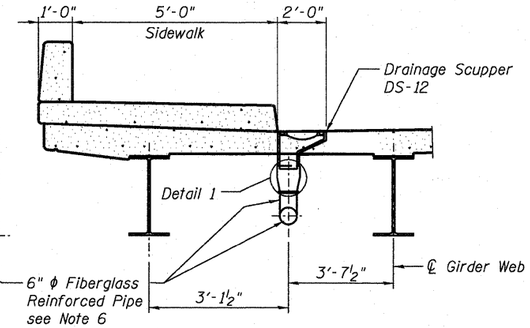
PLAN



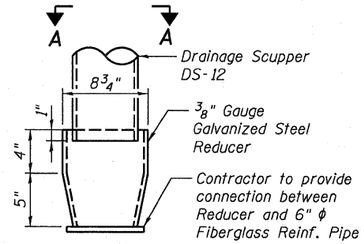
SECTION B-B
SECTION C-C similar



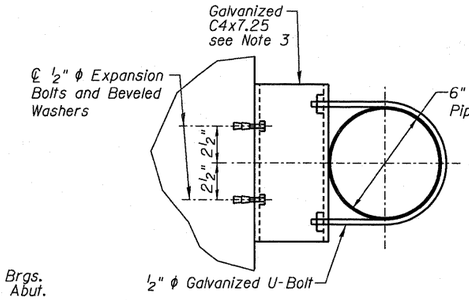
SECTION A-A



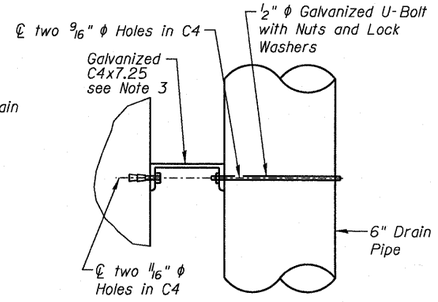
SECTION AT SCUPPER



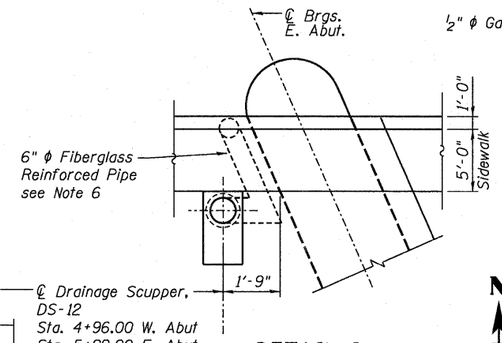
DETAIL 1



PLAN

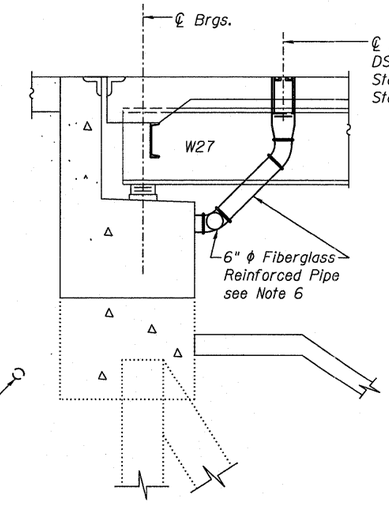


ELEVATION

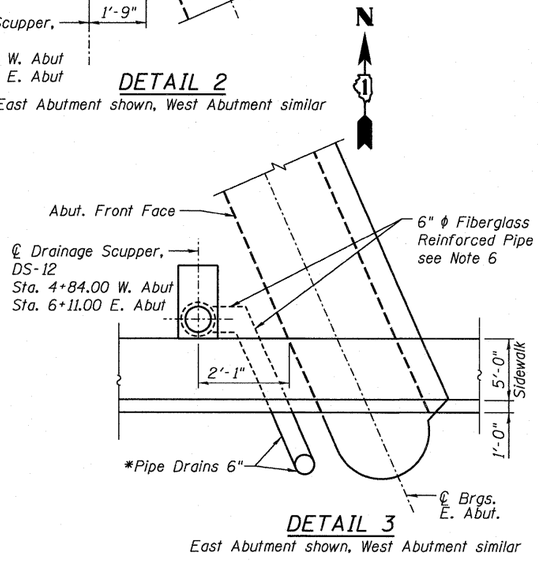


DETAIL 2
East Abutment shown, West Abutment similar

PIPE SUPPORT DETAIL ON FLAT SURFACE
see Note 6



SECTION D-D
Sidewalk not shown for clarity



DETAIL 3
East Abutment shown, West Abutment similar

Notes:

1. Scuppers shall be located clear of all diaphragms.
2. For drainage scupper details see sheet S29.
3. Larger channel sections may be used if required for drain pipe to clear miscellaneous attachments to abutments as approved by the engineer.
4. See Special Provisions for Drainage System installation and material.
5. Color of Fiberglass pipe shall be green.
6. Cost of fiberglass reinforced pipes and pipe drains 4" with all supports, fittings, connections and cleanouts included with Drainage System.

BILL OF MATERIALS

Item	Unit	Total
Drainage System	L. Sum	1

FILE NAME = ...\0162121-028-DrainagePlanDetails.dgn	DESIGNED EV	REVISED -	EPSTEIN 600 WEST FULTON STREET CHICAGO, ILLINOIS 60661-1259 TEL 312 454 9100 FAX 312 559 1217 WEB www.epsteinglobal.com	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE DRAINAGE PLAN AND DETAILS STRUCTURE NO. 016-2121 SHEET NO. S28 OF S29 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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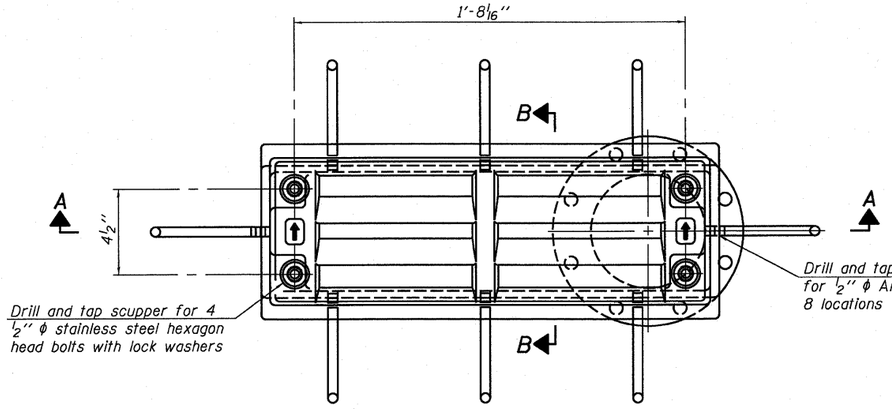
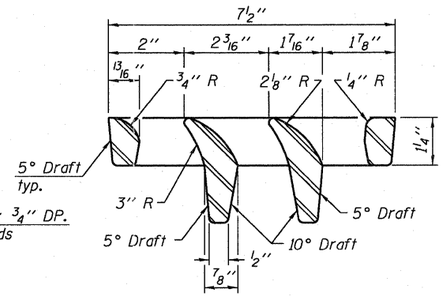
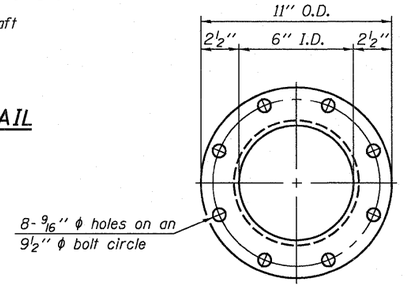
	DATE 07 01 2011	REVISED -						ILLINOIS FED. AID PROJECT		



PLAN



VANE GRATE DETAIL



Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

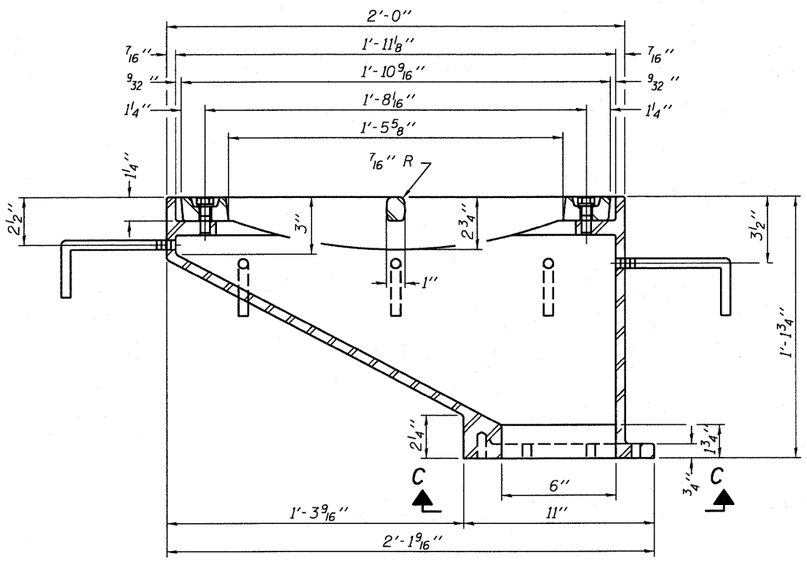
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

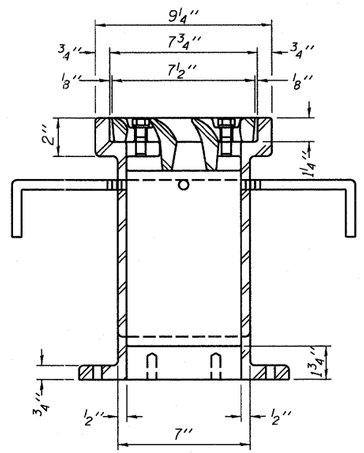
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

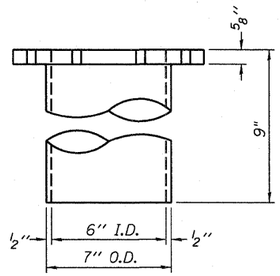


SECTION A-A

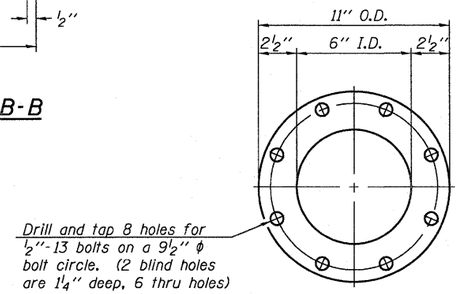
See sheet S28 of S29 for scupper location relative to parapet.



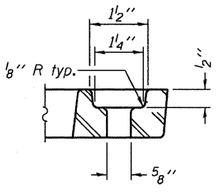
SECTION B-B



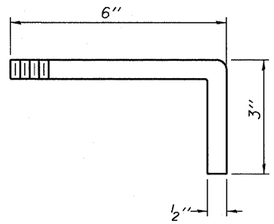
DOWNSPOUT



VIEW C-C



BOLT HOLE DETAIL



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	4

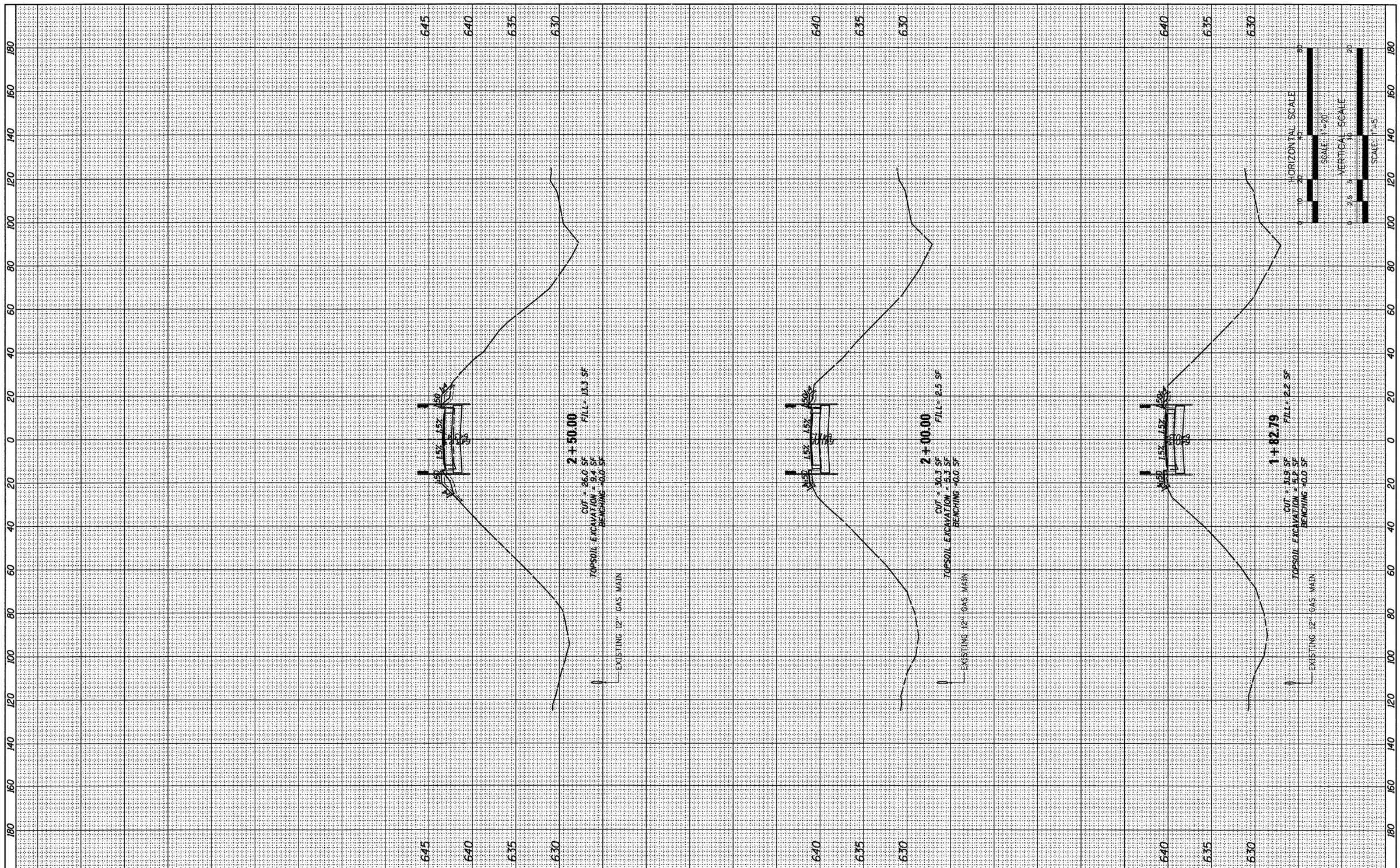
DS-12 7-1-10

FILE NAME = ...\8162121-829-DrainageScupper.dgn	DESIGNED EV	REVISED -	EPSTEIN 600 WEST FULTON STREET CHICAGO, ILLINOIS 60661-1259 TEL 312 454 9100 FAX 312 559 1217 WEB www.epsteinglobal.com
PLOT TIME = 5:25:19 PM	DRAWN JCP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
PLOT DATE = 6/29/2011	CHECKED PC	REVISED -	DRAINAGE SCUPPER DS-12 STRUCTURE NO. 016-2121
	DATE 07 01 2011	REVISED -	SHEET NO. S29 OF S29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	44
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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PLOT DATE = 6/30/2011	CHECKED - TRP	-
	DATE - 07/01/2011	-

EPSTEIN
600 WEST FULTON STREET
CHICAGO, ILLINOIS
60661-1259
TEL 312 454 9100
FAX 312 896 1217
WEB www.epsteinglobal.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

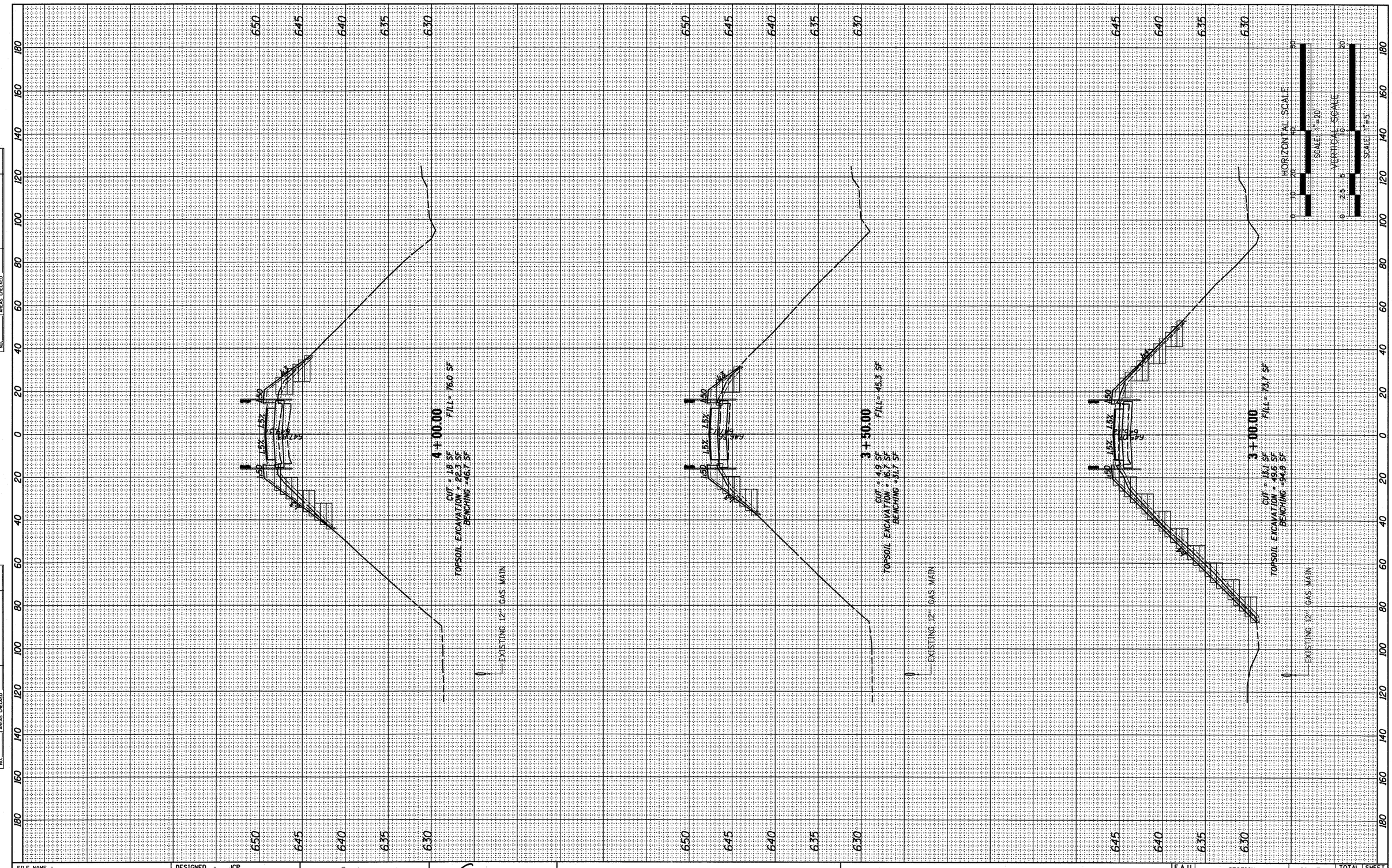
CROSS SECTIONS

SCALE: 1" = 20' | SHEET NO. 1 OF 6 SHEETS | STA. 1+82.79 TO STA. 2+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	45
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMP. I.P.		
	AREAS		
NO.	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMP. I.P.		
	AREAS		
NO.	AREAS CHECKED		



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PLOT DATE = 6/30/2011	DATE -	07/01/2011

EPSTEIN
600 WEST FULTON STREET
CHICAGO, ILLINOIS
60661-1209
TEL 312 454 9100
FAX 312 559 1217
WEB www.epsteinglobal.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

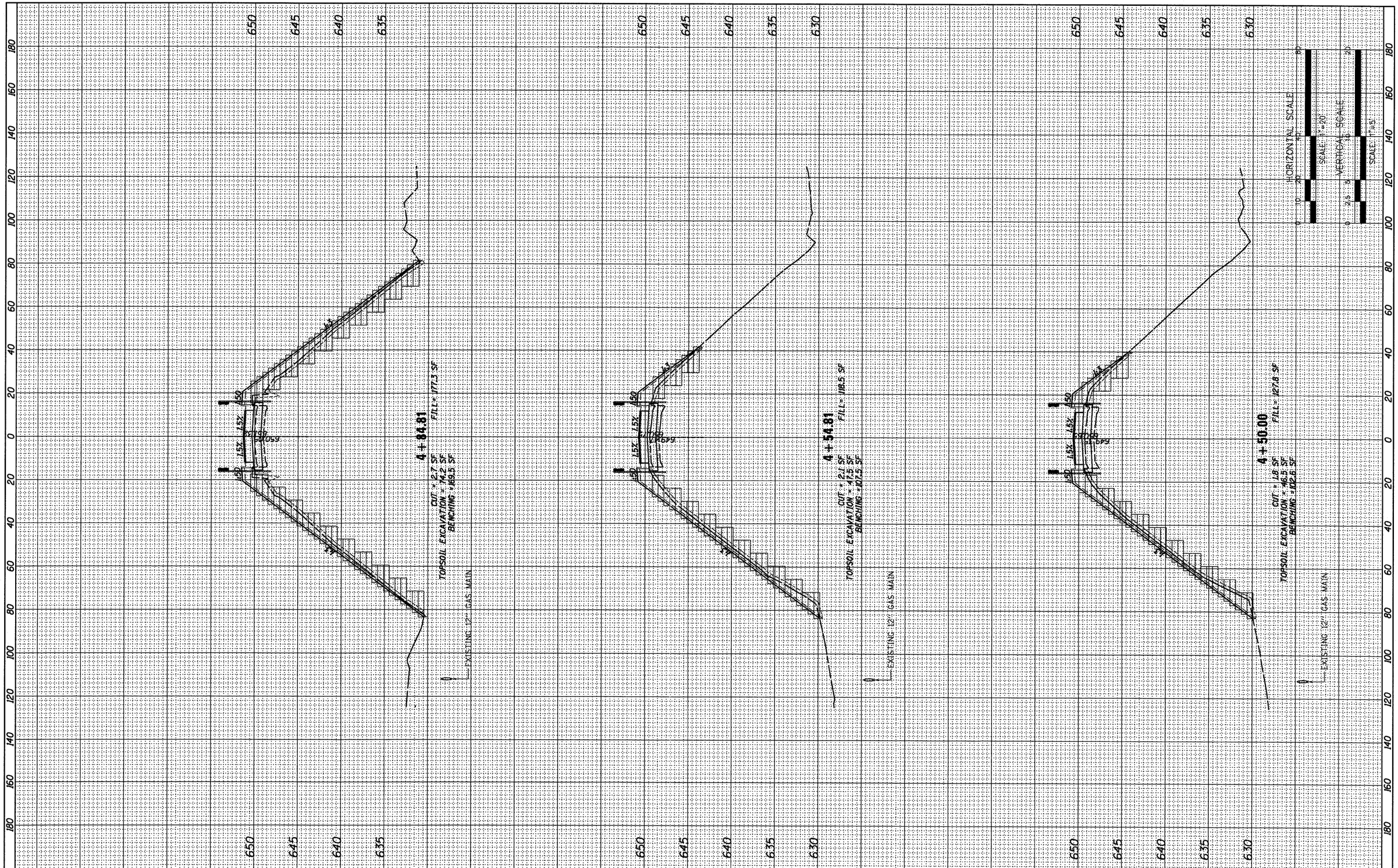
CROSS SECTIONS

SCALE: 1" = 20' | SHEET NO. 2 OF 6 SHEETS | STA. 3+00.00 TO STA. 4+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	46
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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PLOT DATE = 6/30/2011	CHECKED - TRP	-
	DATE - 07/01/2011	-

EPSTEIN
600 WEST FULTON STREET
CHICAGO, ILLINOIS
60661-1259
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WEB www.epsteinglobal.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

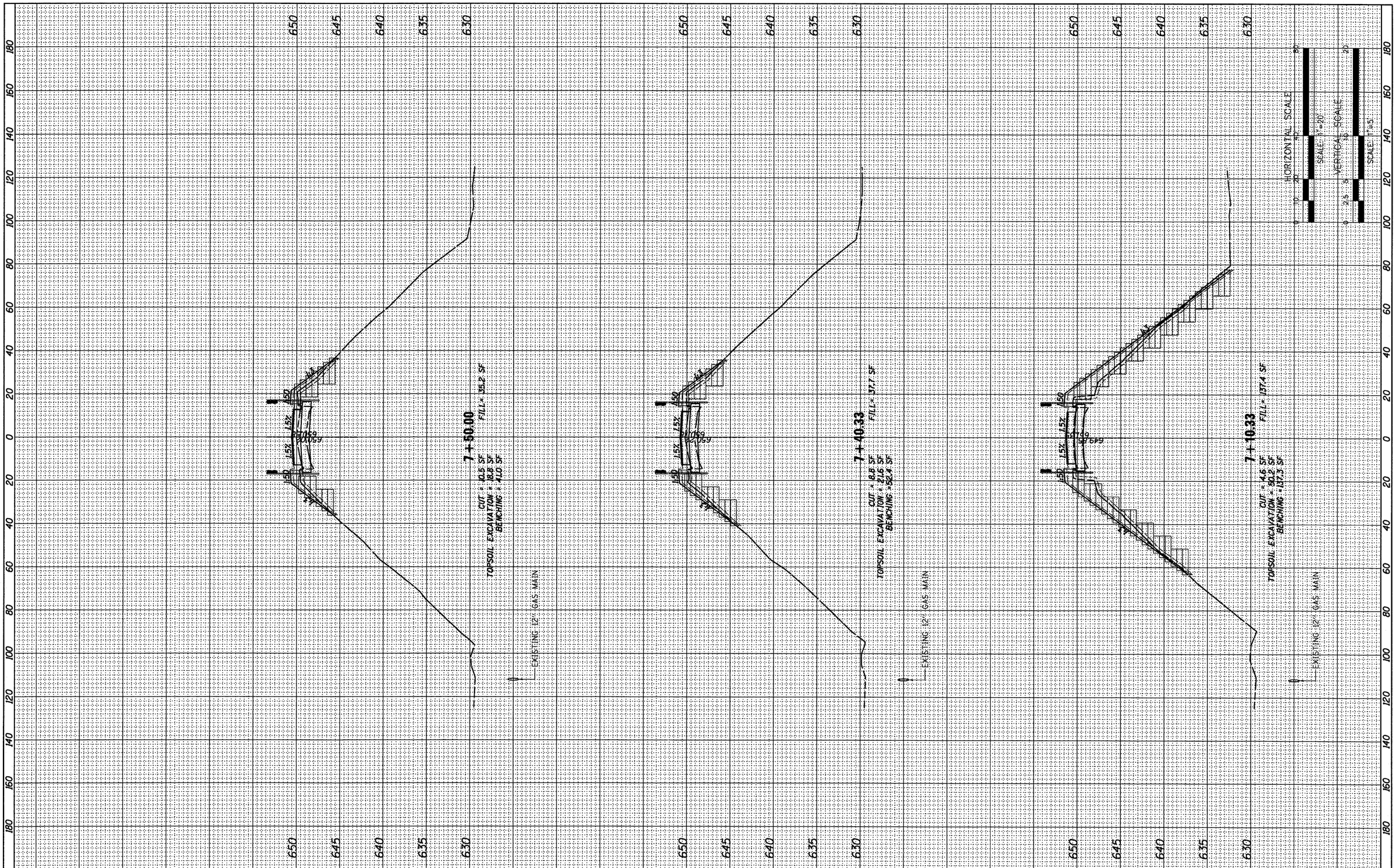
CROSS SECTIONS

SCALE: 1" = 20' | SHEET NO. 3 OF 6 SHEETS | STA. 4+50.00 TO STA. 4+84.81

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	47
		CONTRACT NO. 62421		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	HORIZ.		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPL.#		
	HORIZ.		
	AREAS CHECKED		



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PLOT DATE = 6/30/2011	CHECKED - TRP	-	
	DATE - 07/01/2011	-	

EPSTEIN
600 WEST FULTON STREET
CHICAGO, ILLINOIS
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FAX 312 559 1217
WEB www.epsteinglobal.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

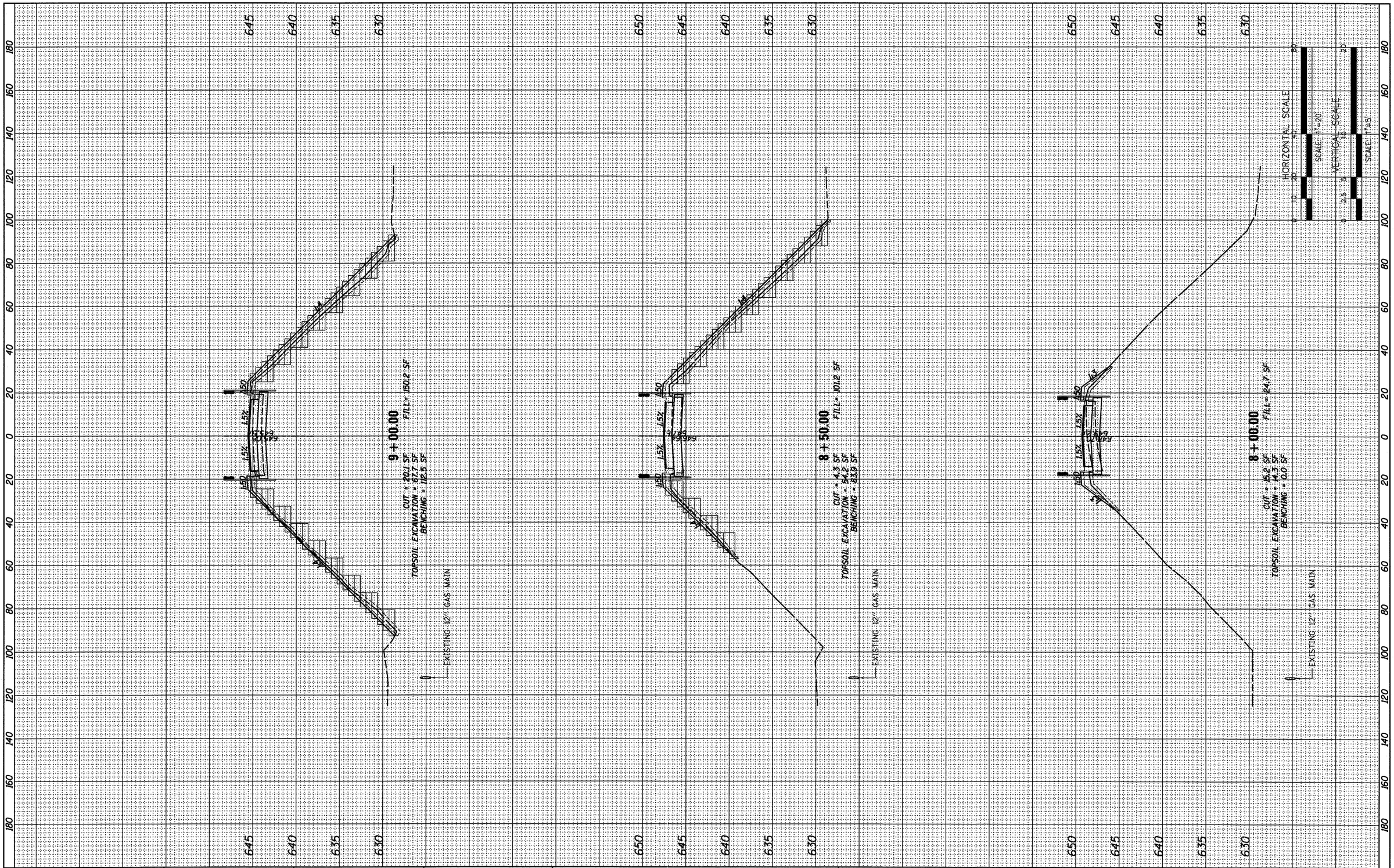
CROSS SECTIONS

SCALE: 1" = 20' | SHEET NO. 4 OF 6 SHEETS | STA. 7+10.33 TO STA. 7+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	48
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		



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PLOT DATE = 6/30/2011	CHECKED - TRP	-
	DATE - 07/01/2011	-

EPSTEIN
600 WEST FULTON STREET
CHICAGO, ILLINOIS
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TEL 312 454 9100
FAX 312 558 1217
WEB www.epsteinglobal.com

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

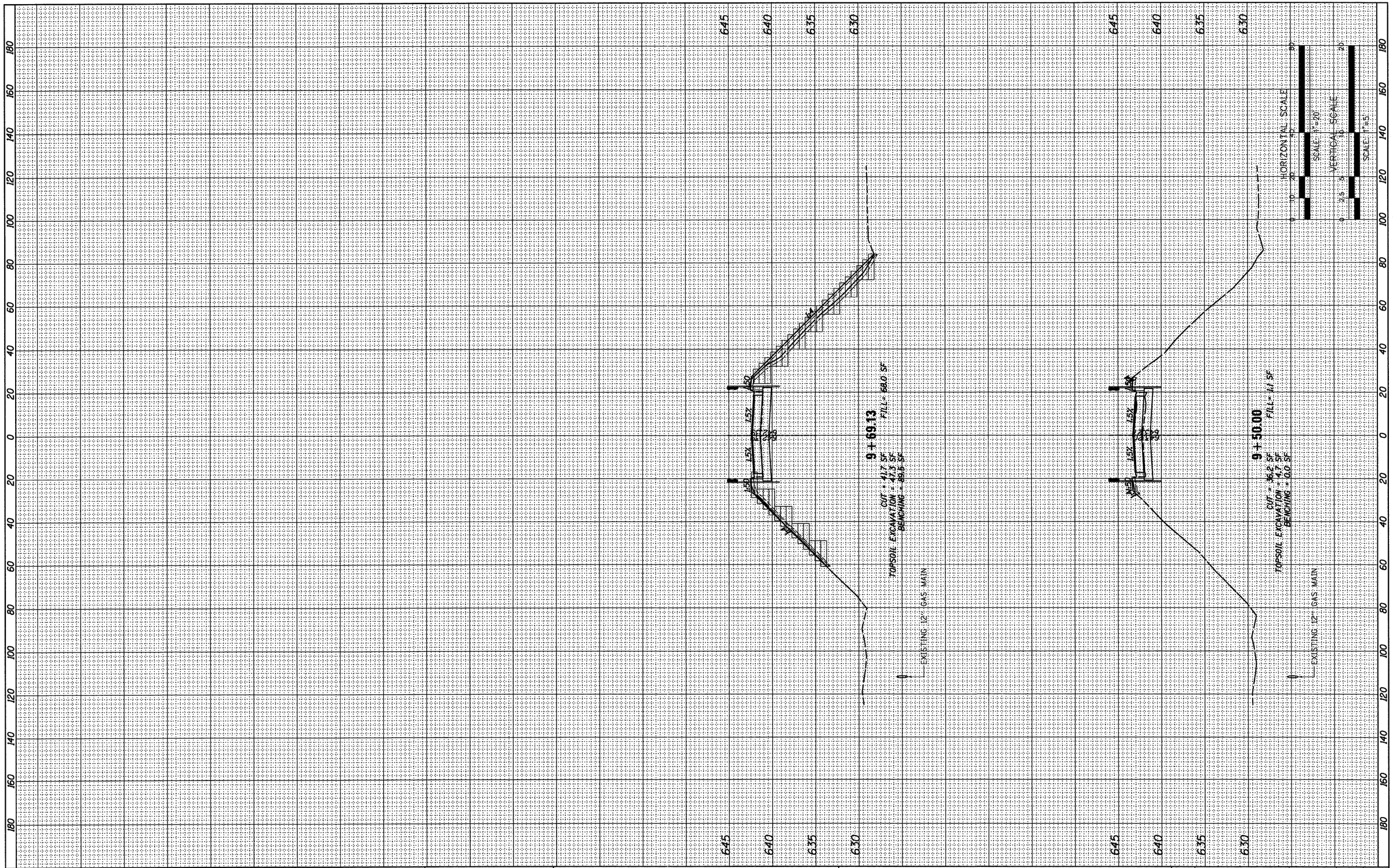
CROSS SECTIONS

SCALE: 1" = 20' | SHEET NO. 5 OF 6 SHEETS | STA. 8+00.00 TO STA. 9+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	49
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		



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PLOT TIME = 11:09:30 AM	CHECKED - TRP	-
PLOT DATE = 6/30/2011	DATE - 07/01/2011	-

EPSTEIN
600 WEST FULTON STREET
CHICAGO, ILLINOIS
60661-1259
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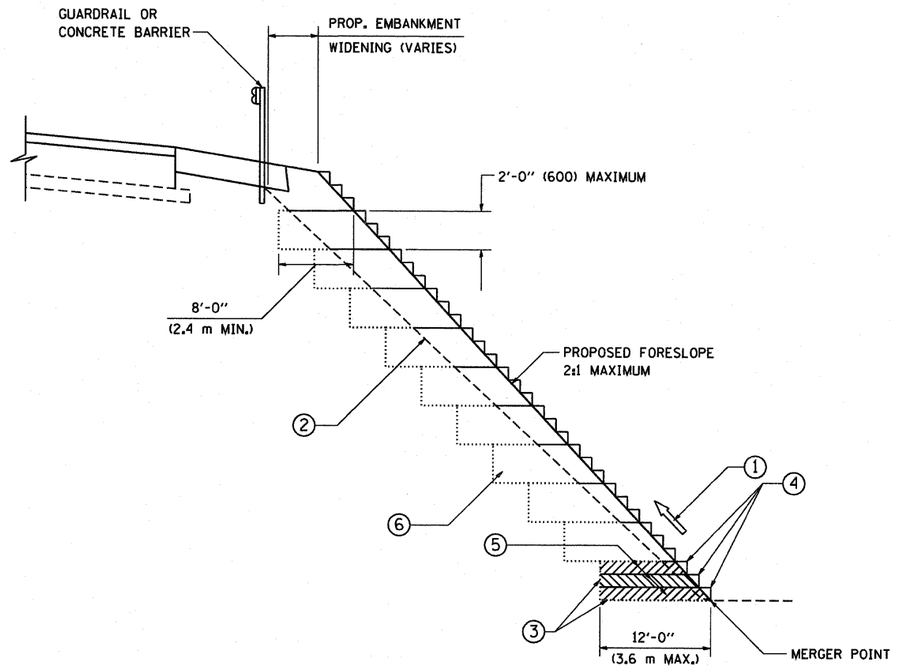
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 1" = 20' | SHEET NO. 6 OF 6 SHEETS | STA. 9+50.00 | TO STA. 9+69.13

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	50
		CONTRACT NO. 62421		
		ILLINOIS FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\bd51.dgn	USER NAME = gaglionobt	DESIGNED -	REVISED -
		DRAWN - CADD	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - S.E.B.	REVISED -
	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED -

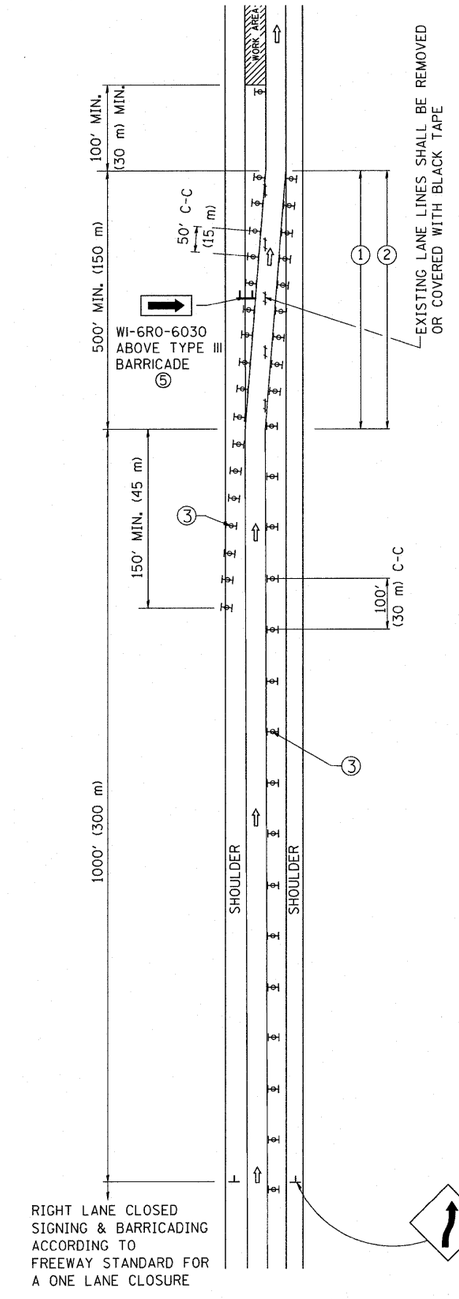
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT WIDENING

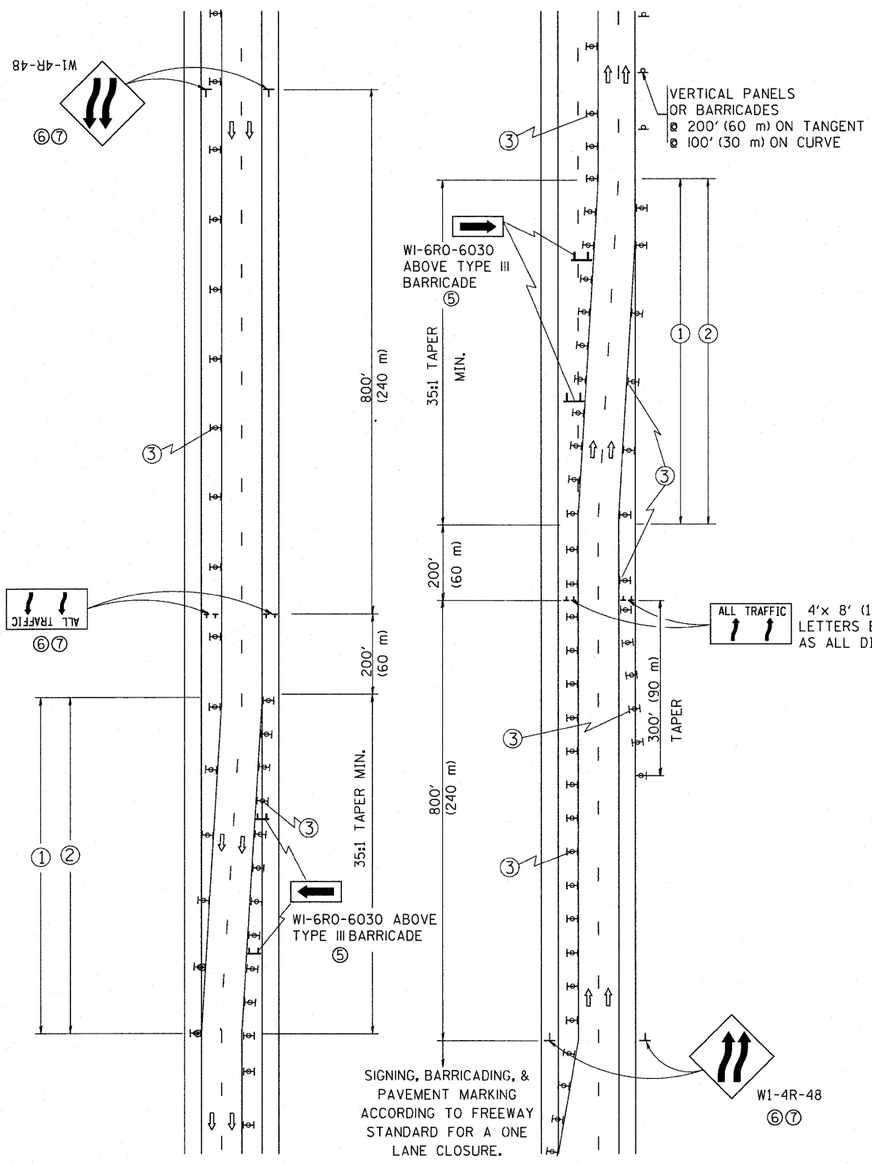
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	51
	BD-51	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SINGLE LANE WEAVE



MULTI-LANE WEAVE



ALL TRAFFIC 4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

GENERAL NOTES

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 24 HOURS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS. TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

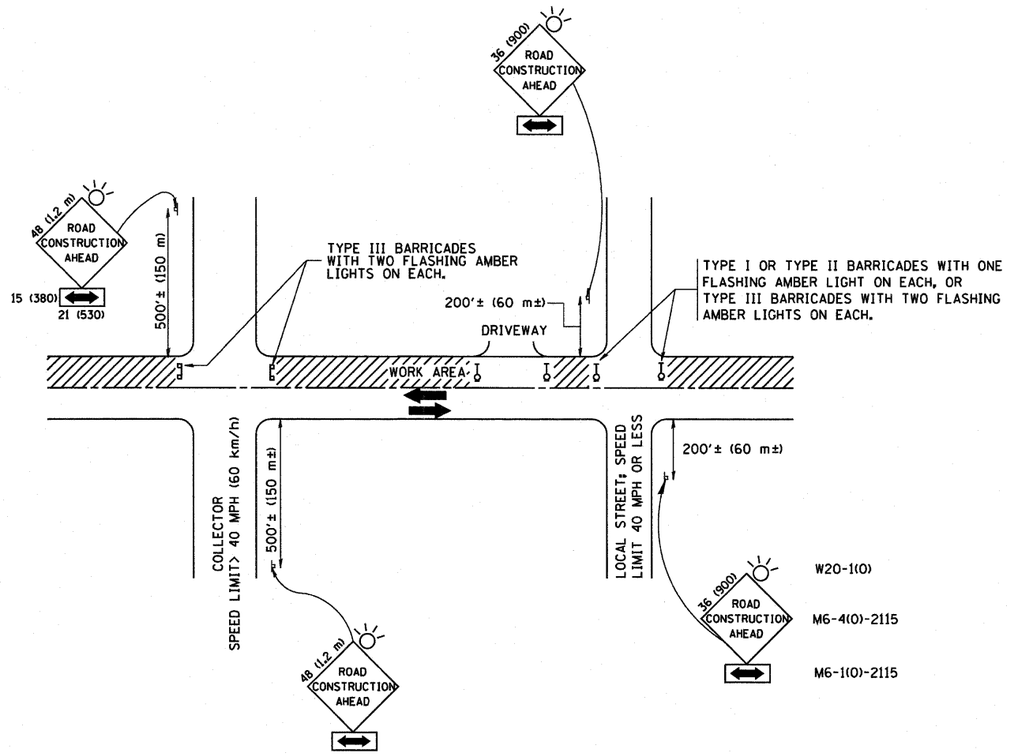
FILE NAME = W:\diststd\22x34\tc09.dgn	USER NAME = leyse	DESIGNED - DWS	REVISED - JAF 01-03
		DRAWN -	REVISED - JAF 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - SPB 01-07
	PLOT DATE = 1/26/2010	DATE - 02-87	REVISED - SPB 12-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	52
	TC-09	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters (inches) unless otherwise shown.

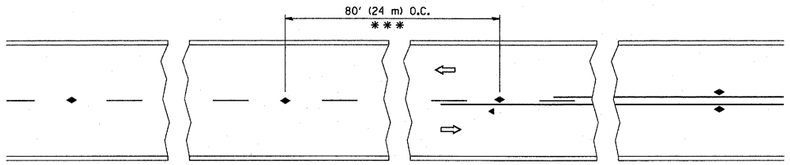
FILE NAME = W:\diststd\22x34\tc10.dgn	USER NAME = gaglionobt	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED -T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

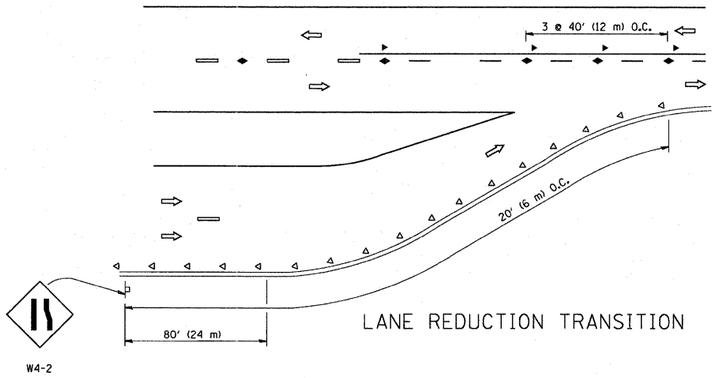
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	53
	TC-10	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

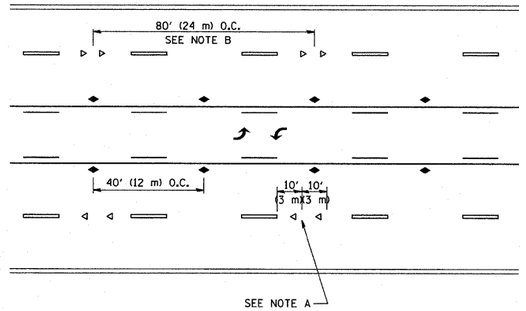


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

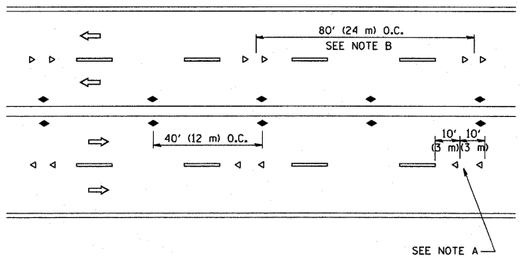
TWO-LANE/TWO-WAY



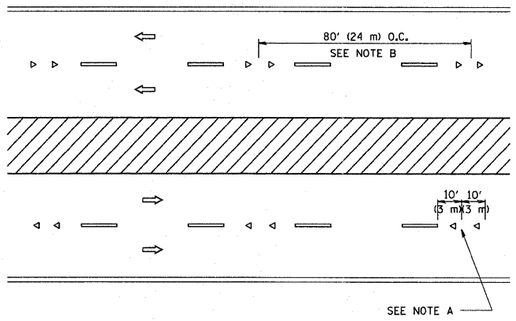
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

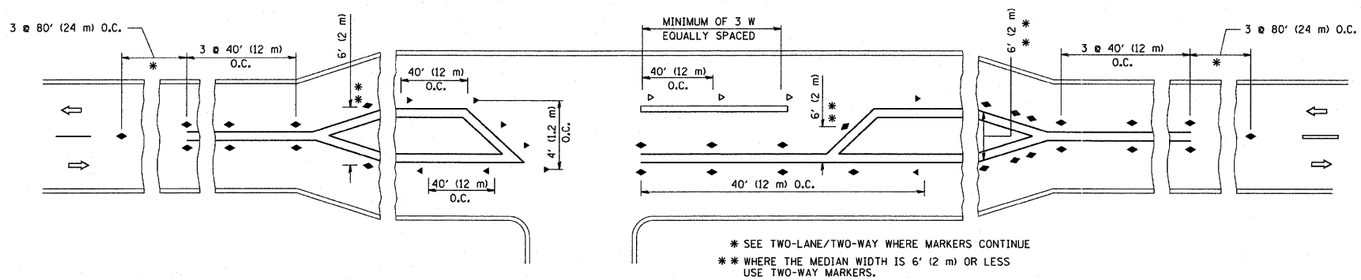
LANE MARKER NOTES

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE

** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

All dimensions are in inches (millimeters) unless otherwise shown.

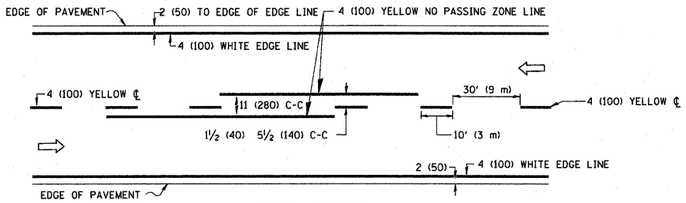
FILE NAME = c:\pw_work\pwidot\drivakosgn\d0100315\tc11.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED -T. RAMMACHER 09-19-94
		DRAWN -	REVISED -T. RAMMACHER 03-12-99
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -T. RAMMACHER 01-06-00
	PLOT DATE = 9/9/2009	DATE -	REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

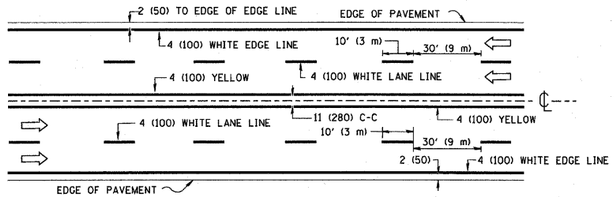
TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

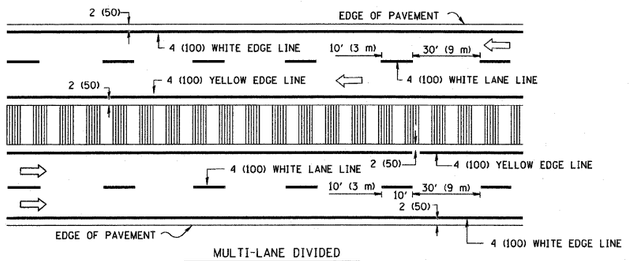
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	54
	TC-11	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



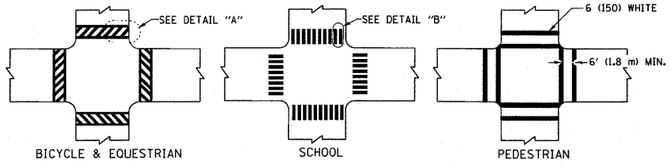
MULTI-LANE UNDIVIDED

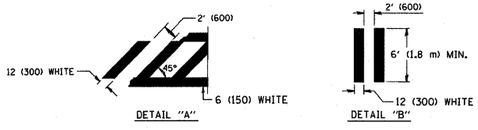


MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

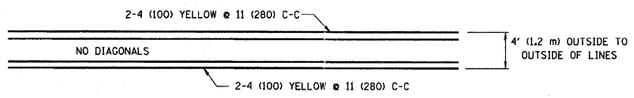
NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

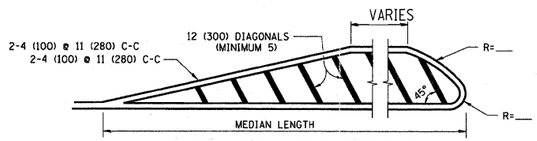




TYPICAL CROSSWALK MARKING



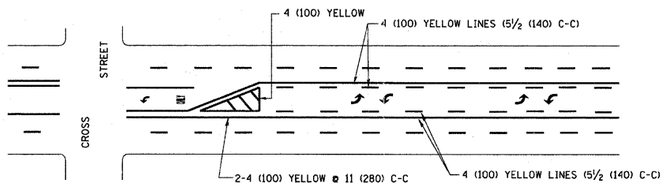
4' (1.2 m) WIDE MEDIANS ONLY



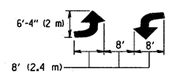
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

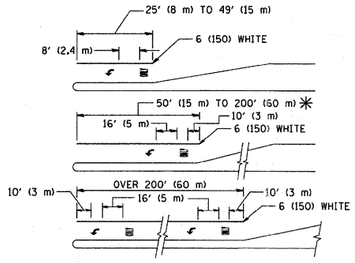


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

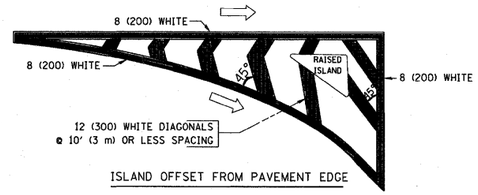


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

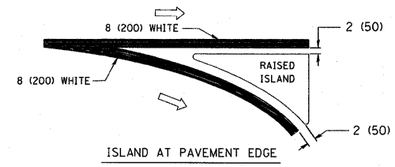
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 ⊗ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 ⊗ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 ⊗ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 ⊗ 6 (150) 12 (300) ⊗ 45° 12 (300) ⊗ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 ⊗ 4 (100) WITH 12 (300) DIAGONALS ⊗ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS ⊗ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS	12 (300) ⊗ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

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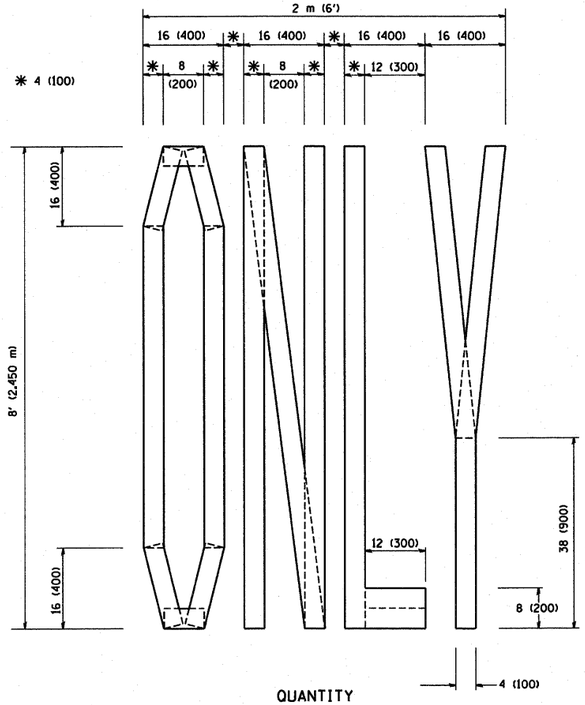
		DRAWN -	REVISED -C. JUCIUS 09-09-09
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/9/2009	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

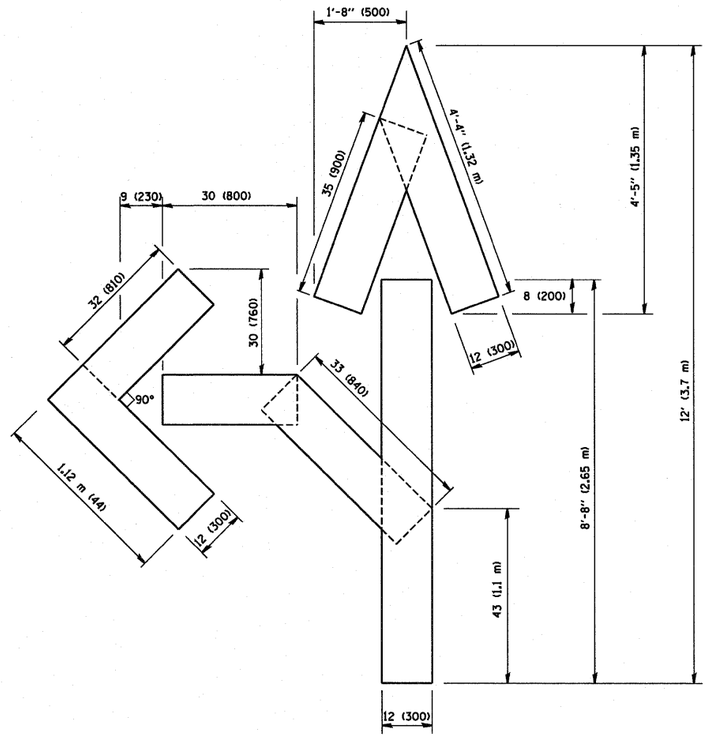
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

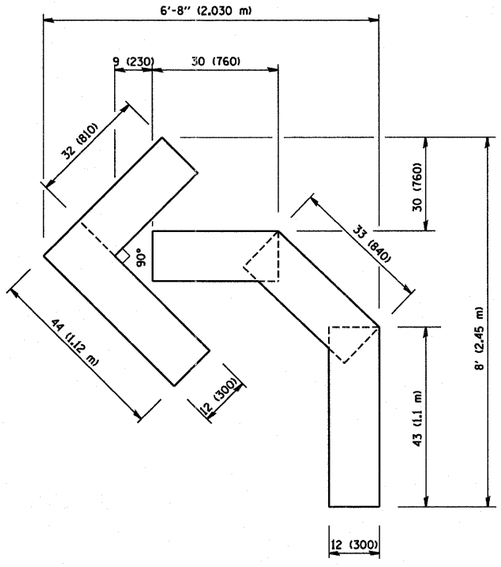
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	55
	TC-13	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



QUANTITY
4 (100) LINE = 64.1 ft. (19.7 m)
21.1 sq. ft. (1.97 sq. m)



QUANTITY
4 (100) LINE = 82.5 ft. (25.3 m)
27.5 sq. ft. (2.53 sq. m)



QUANTITY
4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.39 sq. m)

All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME = W:\diststd\22x34\tc16.dgn	USER NAME = gaglienobt	DESIGNED -	REVISED -T. RAMMACHER 06-05-96
		DRAWN -	REVISED -T. RAMMACHER 11-04-97
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98
	PLOT DATE = 1/4/2008	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00

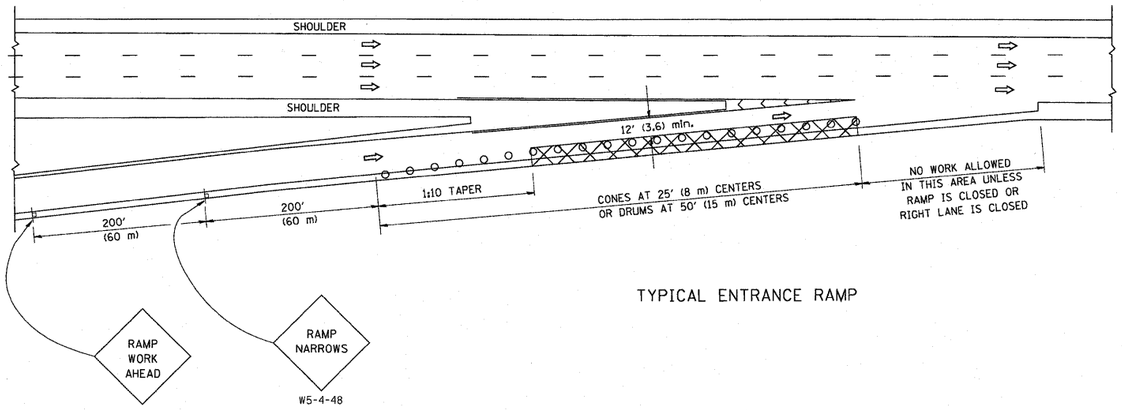
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING

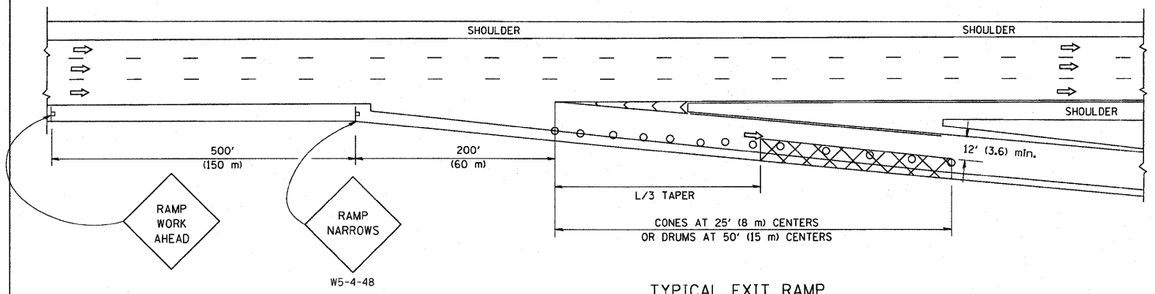
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	56
	TC-16	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

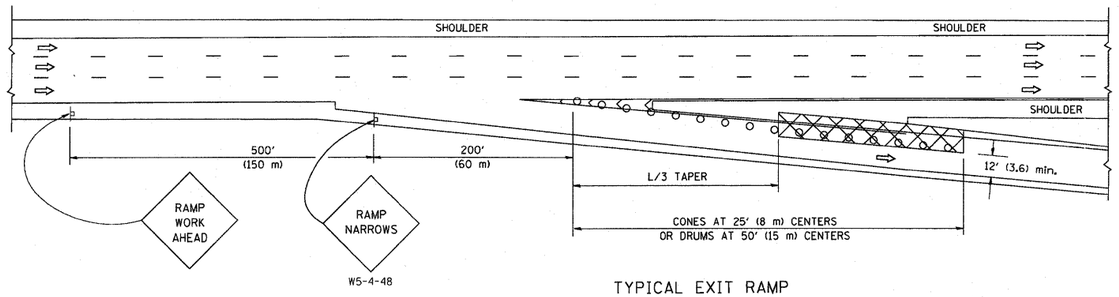
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

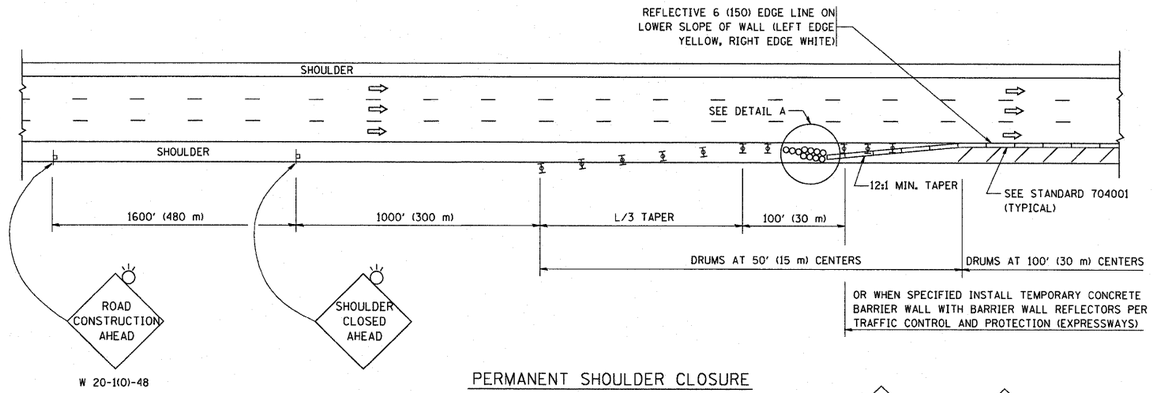
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
	METRIC	ENGLISH
45 mph (80 km/h) OR GREATER:	L=0.65(W)(S)	L=(W)(S)

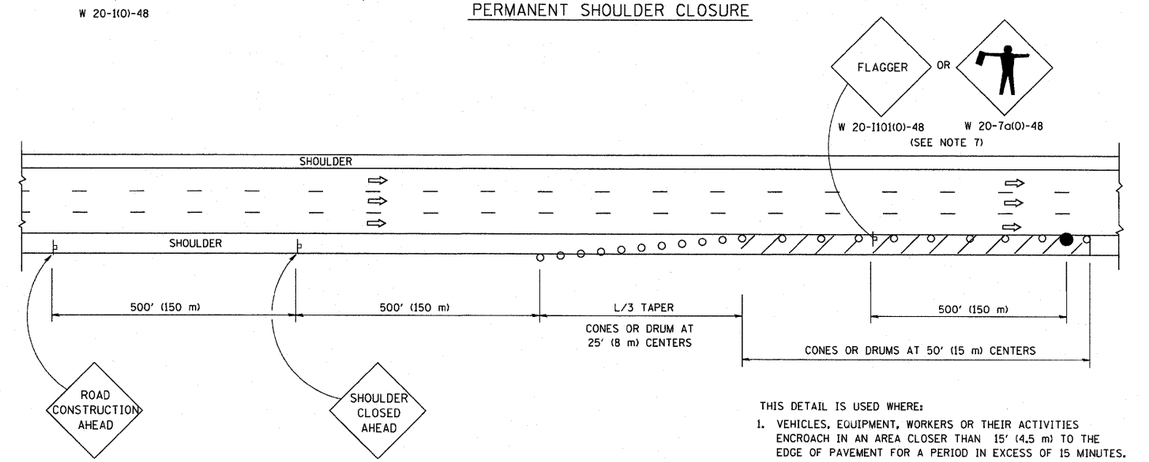
W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS



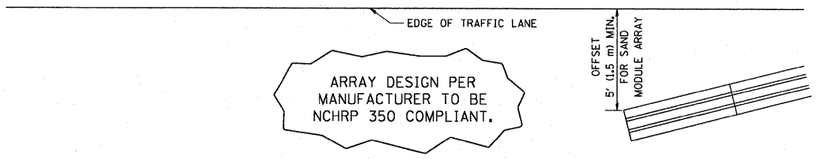
PERMANENT SHOULDER CLOSURE



THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

DAYTIME SHOULDER CLOSURE



DETAIL "A"
IMPACT ATTENTUATOR, TEMPORARY
(SEE NOTE 5)

5. THE IMPACT ATTENTUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\tc17.dgn	USER NAME = loysa	DESIGNED -	REVISED - 04-03
		DRAWN - D.W.S.	REVISED - J.A.F. 12-06
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/26/2010	DATE - 11-96	REVISED - S.P.B. 12-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

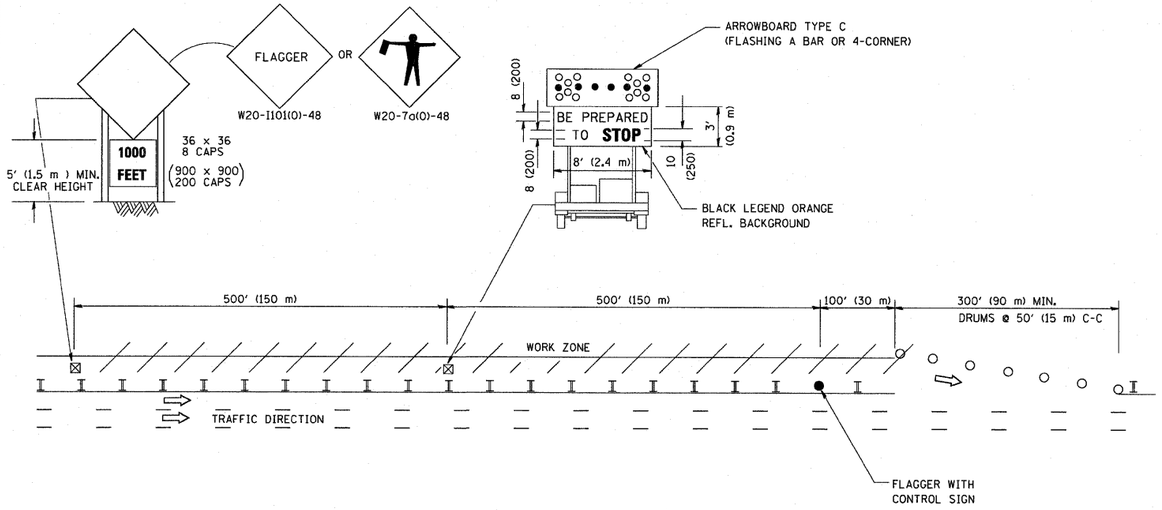
TRAFFIC CONTROL DETAILS FOR FREEWAY
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

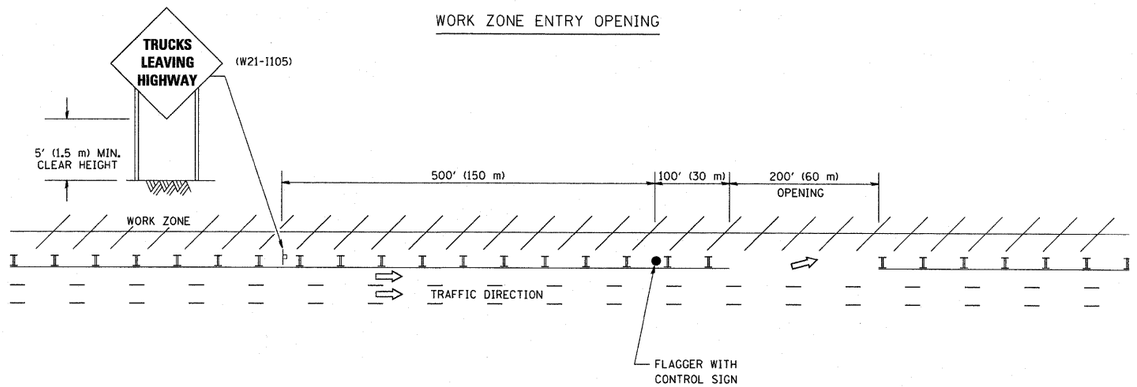
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	57
	TC-17	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. THE ARROWBOARD, THE FLAGGER AHEAD SIGN AND THE TRUCKS LEAVING HIGHWAY SIGN SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE EXIT OPENINGS SHOULD BE A MINIMUM OF ONE HALF MILE APART.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

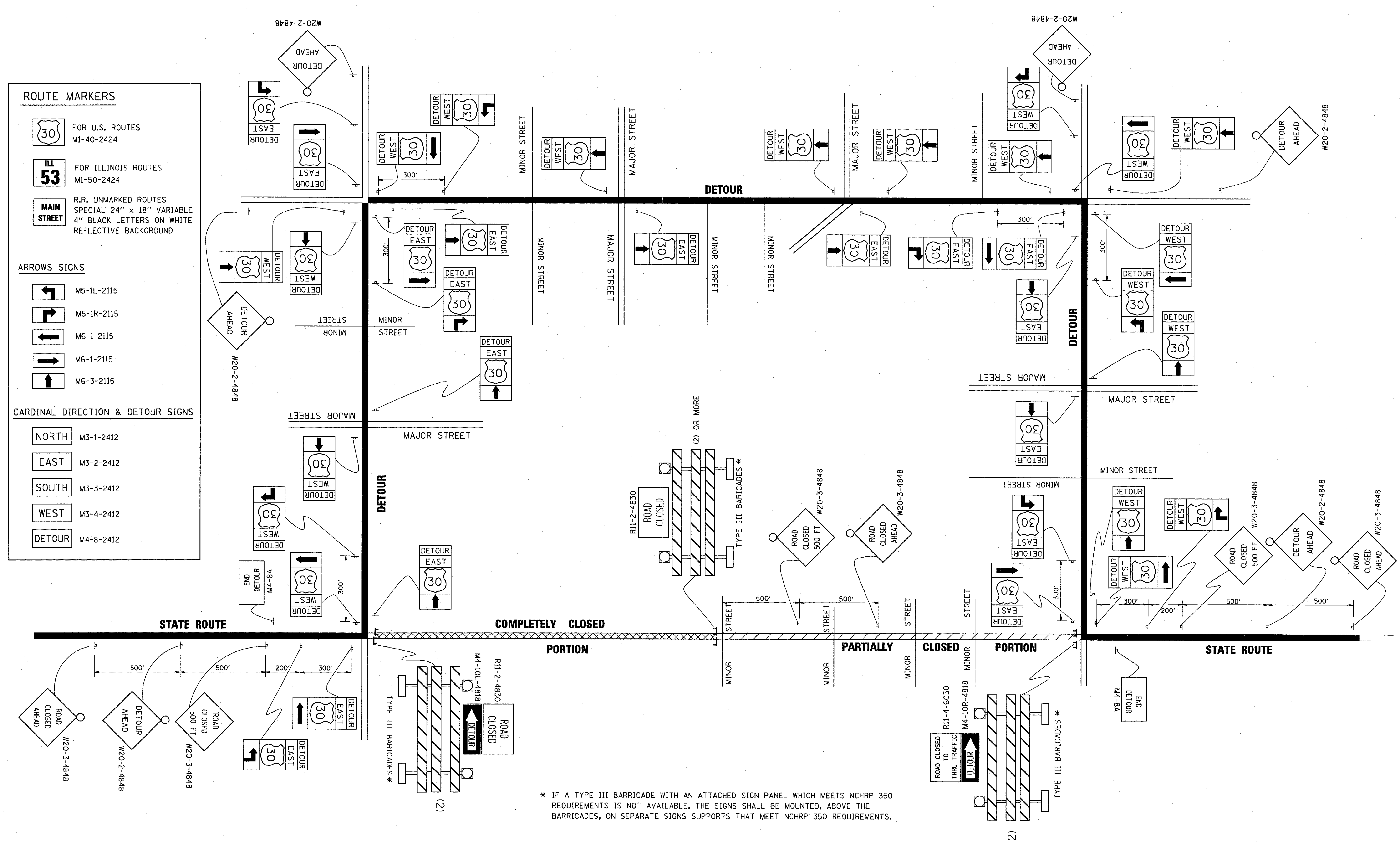
FILE NAME = W:\diststd\22x34\tc18.dgn	USER NAME = leyse	DESIGNED -	REVISED - J.A.F. 04-03
		DRAWN -	REVISED - J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/26/2010	DATE -	REVISED - S.P.B. 12-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	58
	TC-18	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

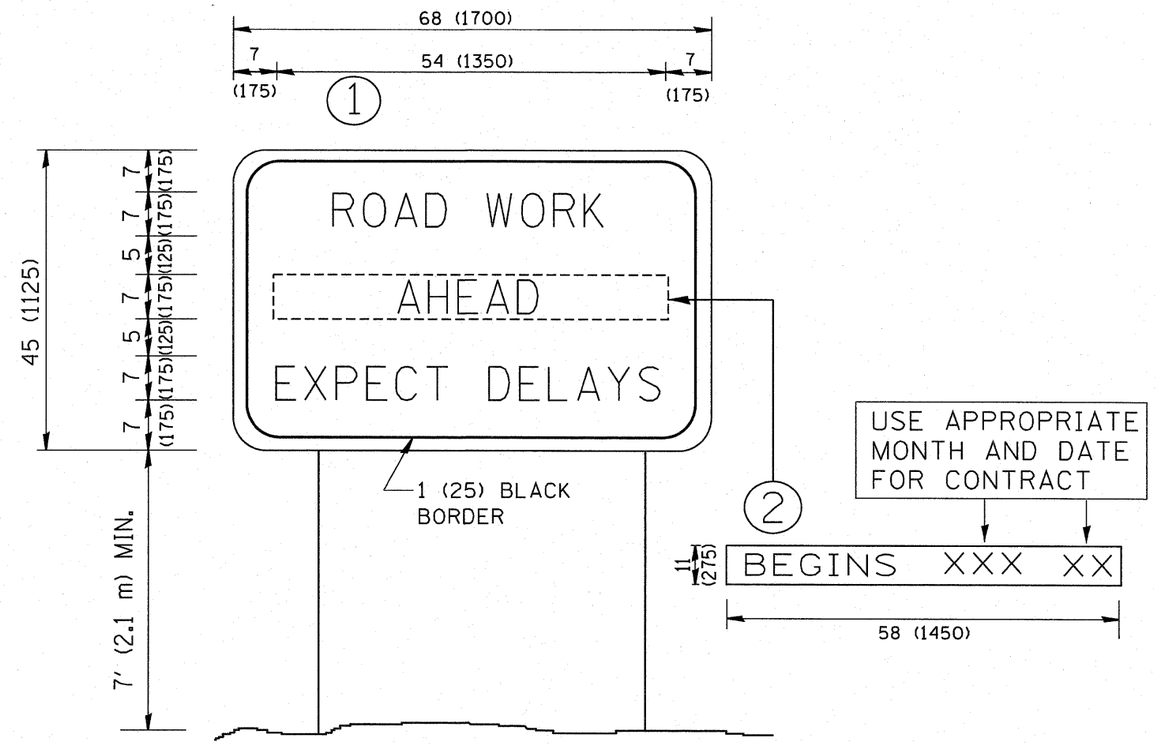
FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - 10-18-02
c:\pw_work\PWIDOT\DRIVAKOSGN\d0108315\tc21.dgn		DRAWN -	REVISED - R. BORO 09-14-09
	PLOT SCALE = 49.9999 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/14/2009	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR SIGNING
FOR CLOSING STATE HIGHWAYS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	59
	TC-21	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL (2) SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\tc22.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD INFORMATION SIGN

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	0101.1 BR-3	COOK	60	60
	TC-22	CONTRACT NO. 62421		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		